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ABSTRACT

This report summarizes research evidence of the values in early childhood education with emphasis on nursery school education. Included are studies of the effects of nursery school and kindergarten on children's social, personal, emotional, and intellectual development, and later school achievement. Other reports focus on race awareness, dramatic play, and culturally disadvantaged children. Abstracts of selected studies and a bibliography are also included. (CS)

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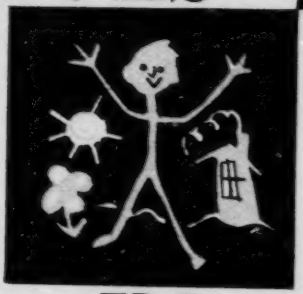
# VALUES E-K-N-E IN EARLY CHILDHOOD EDUCATION



EVANGELINE BURGESS, PACIFIC OAKS COLLEGE, PASADENA, CALIFORNIA

Second Edition

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Department of Elementary-
Kindergarten-Nursery Education

National Education Association
1201 Sixteenth Street, N.W.
Washington, D.C. 20036

# VALUES IN EARLY CHILDHOOD EDUCATION

EVANGELINE BURGESS, PACIFIC OAKS COLLEGE, PASADENA, CALIFORNIA

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# CONTENTS

FOREWORD—4

I. BACKGROUND CONSIDERATIONS—5

Variety in Early Childhood Education
Heightened Interest Today
Scope of Article

II. SOCIAL AND EMOTIONAL DEVELOPMENT—13

Studies of Overall Effect of
School Experience on Social Development
Security Away from Home
Child-Parent Relationships
Teacher Guidance
Child-Child Relationships
Sex-Role Identification
Dramatic Play

III. INTELLECTUAL GROWTH—29

IQ as a Measure of Intellectual Values
Intellectual Development in the Hierarchy of Values
New Concepts of Intelligence
Piaget's Work
Soviet Research
Issues in Current Theory of Cognitive Processes
Creativity and Intelligence
Language Development
Skills Training
Major Issues for Early Childhood Education

IV. LATER SCHOOL ACHIEVEMENT—49

Preschool Experience for
Culturally Disadvantaged Children
Self-Concept and School Achievement
Other Factors

V. LOOKING AHEAD—55

Appendix A. RÉSUMÉS OF SELECTED STUDIES—59

Appendix B. BIBLIOGRAPHY—77

## FOREWORD

Revised editions of Values in Early Childhood Education will be published approximately every five years. The first appeared in 1960; this is the second edition, incorporating important new research through 1964.

There are several differences in focus in this edition. First, deliberate emphasis is given to the nursery school because this is a new area included in the Department of Elementary-Kindergarten-Nursery Education of NEA and because interest is rapidly rising in the educational importance of the early years of childhood, the years of three to five which precede the usual public school entry age.

Second, not all studies referred to are fully summarized here. To do so seems redundant. In addition to the 1960 issue of Values in Early Childhood Education, two related summaries of research have appeared recently:

Sears, Pauline S., and Dowley, Edith M. Handbook of Research on Teaching. (Edited by N. L. Gage.) Chicago: Rand McNally & Co., 1963. Chapter 15, "Research on Teaching in the Nursery School," pp. 814-64.

Swift, Joan. "Effects of Early Group Experience: The Nursery School and Day Nursery." Review of Child Development Research. New York: Russell Sage Foundation, 1964.

From these three summaries, generalizations or contrasts are made when possible, and the reader is referred to original studies by name of investigator or author and date. Complete references are contained in Appendix B. Résumés of specific studies included here are confined to those published since 1959 which focus on the outcomes of nursery school education or the analysis of factors composing nursery school education. These résumés are placed together in Appendix A and referred to appropriately throughout the text.

Appreciation goes to a number of people for assistance in preparation of material. At Pacific Oaks College, Barbara Hovey, president of the Southern California Association for Nursery Education and a M. A. candidate, wrote the résumés and prepared the chart in Appendix A; Dr. James Hall, research associate and instructor, read the material and gave helpful suggestions; a group of students assisted with literature search; the secretarial staff worked far beyond the call of duty to meet deadlines for a tardy author. A group of nursery school educators meeting in Minneapolis to discuss preschool curriculum improvement gave critical assistance in editing the first draft and suggested further material for inclusion.

E. B.

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*chapter*

# I

# Background Considerations

The values in early childhood education are very real to those professional people directly involved and to most parents whose children have attended a nursery school or kindergarten. They are not so clear to most teachers and administrators from elementary through higher education or to lay persons. Jungle gyms, pollywogs, water, earth, and building blocks are not the usual materials of instruction in classrooms serving older children. To the extent that one sees the relevance of direct experience with things to abstract symbolization of ideas, one sees the nursery school and kindergarten as important foundations of the total educative process. Qualified teachers of young children are familiar with how learning in these years takes place from the specific to the general, from the concrete to the abstract, from the immediate to the more distant in time and space.

## VARIETY IN EARLY CHILDHOOD EDUCATION

Before attempting to analyze values in early childhood education as supported by research, it would be wise to review briefly the nature and goals of early childhood education—its varied purposes and how it currently relates to other areas of education.

Kindergartens, which in the United States are designed for five-year-olds, were transmitted from roots in Europe which were clearly educational in purpose. Kindergartens are now rather well established in the public schools of this country. According to a census by the U.S. Office of Education in 1957-58, 70.4 percent of all urban areas support public kindergartens, an increase of 9.7 percent over a 1955-56 survey (Dean, 1960). There are still areas of the country where public kindergartens are not available because taxpayers are not sufficiently convinced of their value to be willing supporters.

The purpose and value of kindergartens as currently viewed by kindergarten teachers can be illustrated by a tabulation of responses to a 1961 questionnaire sent to a representative sample of teachers. Replies were received from 281 public and 161 private school kindergarten teachers (National Education Association, Research Division, 1962).

| Purpose and Value of Kindergarten | Percent of Kindergarten Teachers | |
|---|---|---|
| | Public | Private |
| Social development—getting along with others, courtesy, consideration, sharing | 75.3 | 72.3 |
| Mental alertness, curiosity, creative thinking and inquiry | 39.1 | 33.8 |
| Physical coordination | 28.0 | 23.0 |
| Language development—vocabulary, expression, listening, following directions | 22.9 | 16.9 |
| Discovering oneself as an individual, self-reliance, self-confidence, self-control | 22.1 | 23.0 |

| | | |
|---|---|---|
| Reading readiness | 15.9 | 8.8 |
| Work habits—following instructions, finishing projects | 15.9 | 14.2 |
| Assuming responsibility—dependability | 8.5 | 7.4 |
| Arithmetic readiness | 8.1 | 6.1 |
| Health habits | 5.9 | 2.7 |

Some differences in emphasis for various aspects of purpose are noted even among the public and private kindergarten teachers represented here. Parents, principals, and elementary teachers might provide further variation. However, the function of the kindergarten as part of education is significantly clearer than that of the nursery school.

The nursery school, typically planned for three- and four-year-old children, and sometimes two-year-olds, is a twentieth century development with more varied historic roots and a wider range of functions. Not all programs presented in the name of nursery school education are the same, nor are they all effective in promoting learning, nor are they all "good" by any knowledgeable standard. Even among those schools that do have knowledgeable standards a variety of programs and curricula exists to serve different functions. These become more understandable by looking briefly at historic development.

Nursery schools in the United States received their impetus in university centers where they were organized for the purpose of studying normal development of children. Day care centers or day nurseries arose two decades earlier in urban slum centers to provide for the essential needs of poor children. In the 50 years since these two types of programs were initiated, two major national crises instigated establishment of nursery schools for still other functions. The depression gave rise to WPA nursery schools for the purpose of feeding children and providing jobs for unemployed teachers. During World War II, the Lanham Act provided for the organization of nursery schools to provide care for young children so their mothers could become part of the needed work force for war industry. Parent cooperative nursery schools have grown by leaps and bounds, in part to give children some social experiences and in part to give parents opportunity to learn about modern ideas of child rearing. Since World War II, the number of proprietary nurseries has increased markedly, the majority serving the needs of working mothers. Church-sponsored nursery schools compose another group to serve still another function.

Along with these primary functions, all types of programs for young children have tended to take on some similar characteristics. Nearly all of them indicate they hold mental health and education as objectives for children. The terms nursery education and day care are now often used interchangeably. Nursery school teachers have learned to use similar language and terminology, though the sensitive listener recognizes that these do not have precisely the same meaning for all who use them. The terminology tends to be different from that of teachers of older children. The teaching and administrative personnel of all types of programs come together to some extent in

local or national professional groups. On the other hand, each type of nursery school continues to have its own organization with its special interests and concerns.

Teachers share the common experience of working with young children but not common goals and purposes. Because of the different functions they serve and the different auspices under which they perform their work, they have widely varied backgrounds of education—both general and professional.

The sociologist, in a global look at social organization, would probably say that nursery school education is in the process of becoming a social institution. There is, however, a growing body of knowledge about young children and nursery school education. One writer, after a survey trip through the nation, indicated that this knowledge is reflected in only a small fraction of existing programs, since so many operate without benefit of professional leadership (Sanger, 1963). The fact remains that this knowledge is the accepted guide to well-conceived programs.

This academic knowledge itself contributes to variety in nursery school education. Four principal streams of influence currently contributing to its development are not in fruitful communication with each other. Psychiatry and mental health take major responsibility for therapeutically oriented nursery schools and contribute insights about the dynamics of interpersonal relationships to nursery school education in general. Behavioral psychology influences nursery education through its experimental research and becomes involved in operation of nursery schools for laboratory purposes. Social work is primarily responsible for development of day care programs with a social welfare function. In general, education exerts least influence in, and indeed often has little awareness of or interest in, nursery education. Increasing the dialogue among these disciplines which impinge on nursery education is a major need, and education is the logical discipline to take leadership in bringing them together.

Goals of nursery school education have been described by various groups, each giving emphasis to differing aspects of purpose. Sears and Dowley (1963) summarize objectives as they found them in a review of the literature:

1. Meeting organic needs and establishing routine habits: eating, elimination, sleeping, washing, dressing, undressing
2. Learning motor skills and confidences: climbing, running, jumping, balancing, learning to use the body effectively
3. Developing manipulatory skills: using scissors, crayons, paste, paint, clay, dough, building with blocks, working with puzzles, beads, tying, buttoning
4. Learning control and restraint: listening to stories, sitting still, reacting to music
5. Developing appropriate behavior: independence-dependence in adult-child relations; coping with fear, angry feelings, guilt; developing happy qualities, fun, humor, healthy optimism

6. Psychosexual development: identification, sex-role learning, formation of conscience

7. Language development

8. Intellectual development: cognitive learning, concept formation, self-understanding and self-esteem, creativity, academic subject matter.

Another recent statement uses broader categories for a simpler formulation (Jenkins and others, 1963):

"Broad purposes around which most thoughtfully planned programs in nursery school and kindergarten are built today seem to fall into four areas in which teachers help each child to grow in self-understanding, develop satisfying relationships with people, increase awareness and knowledge about the world, and make use of developing powers to communicate and think."

One would need to know how these goals are implemented in the daily program for children in order to know what they really mean or whether they represent the values and style of living desired by a particular educator or parent.

The variety of programs offered for young children in the name of nursery school education has been spelled out here for one reason. It makes clear the impossibility of generalizing about the effect on children of nursery school education, day care, or kindergarten, per se. There are too few common characteristics today which define nursery school education, kindergarten, or day care. Programs reflect differing values, purposes, and professional preparation of teachers. There are standards — recognized only by some; there are goals—which differ; there are teachers—who are individuals from a wide variety of backgrounds; there are schedules and programs and activities—with different emphases. What a child gains in School A may differ from what another child gains in School B as night differs from day.

A recent study by Reichenberg-Hackett (1962), for example, points out the differences in practices, attitudes, and values in 10 different nursery school groups in one community. She found teacher approaches to children in some schools to be primarily encouraging, positive, full of conversation, and supportive of positive values of self-concept, responsibility, and consideration. In other schools, teachers evidenced little interest in children's activities, were rather noncommunicative, and used prohibitions and negative control measures much more extensively. Though many of the same materials were in all schools, their uses varied widely from those that encouraged creative, independent, skillful work, to those that emphasized conformity, cleanliness, and routine.

Among other circumstances that vary from one situation to another are the unique characteristics of the children themselves, the homes they come from, and the reasons for their being sent to school at the age of three or four. How, then, can generalizations be made about the demonstrated outcomes of early childhood education?

## HEIGHTENED INTEREST TODAY

Within nursery education there is currently a genuine ferment of fresh interest and awareness and resulting re-evaluation. A variety of influences are operating to make this so. The trend in child psychology in recent years is one influence, expressed well by Harold Stevenson in the introduction to the Sixty-Second Yearbook of the National Society for the Study of Education, Child Psychology.

> "Child psychology of the past decade differs greatly from that of earlier years. Longitudinal studies, observational methods, and a developmental orientation have largely been replaced or supplemented by short-term experimental studies of the effects of particular variables on child behavior. The 'variable' approach has played an increasingly significant role in research in general psychology, and its impact on child psychology has been stongly felt during the past decade." (NSSE, 1963, p.2)

Second, the temper of the times cries for excellence in education and a heightened interest in science. The result is a trend toward pushing down more formalized content to the nursery school and kindergarten. Nursery school and kindergarten educators are being pressed to justify or modify practices. Sound educators realize that better interpretation of reasons for current practice along with open-mindedness are both called for. Teachers of young children are usually better at responding sensitively to children than they are at describing the theoretical rationale for why they do what they do. Willingness to examine the criticisms of current practice is more productive than defensiveness. Early childhood education has always been experimental and will retain its dynamic quality as long as honest and thoughtful examination of new knowledge occurs.

A third reason for fresh interest in education of young children is the growing evidence of the necessity to plan for special groups of young children. Interest in the so-called culturally deprived child has grown rapidly, arising from urban problems of massive learning failures in school, school dropouts, and juvenile delinquency. Origins of these problems have been identified as stemming from the years before the usual school experience begins. Of the many demonstration and research projects going on all over the country, the most comprehensive is probably the Deutsch Project in New York City (Deutsch, 1963, Appendix A).

Intensive work on meeting needs of the mentally retarded child can be expected as a result of recommendations made by the President's Panel on Mental Retardation (1962). Special attention to young children, so as to take full advantage of their potential, was strongly recommended. The Panel also recommended a broad approach to research, training specialists, and service.

Day care is receiving heightened attention as a result of the work of the National Committee on Day Care and federal legis'ation that allocated money to the states to raise the level of day care service. There will be federal fellowships for graduate education of leaders, both at the master's and doctoral levels. Because of the growing number of women in the work force, society's need for quality programs of day care is tremendous.

With heightened interest, much investigation and research is in progress. A review of current issues of Research Relating to Children, published by the U.S. Children's Bureau, reveals many titles related to educational programs for young children in these and other areas. A year or two more and many of these studies will be completed to increase understanding and guide practices. The popular press has included articles describing some of the research and demonstration projects in progress, an indication of growing public awareness of the educative importance of the early years of childhood.

## SCOPE OF ARTICLE

This report summarizes the research evidence of the values in early childhood education with emphasis on nursery school education. This is a broader focus than one including research evidence of only the outcomes or effects of early childhood education. Reliable evaluation of the learnings for children in early childhood education requires attention to the particular elements that compose the experience in any given school. Questions to which research studies are addressed must attempt to relate one factor or cluster of factors to one subsequent factor or cluster of factors. Sound research practice requires also that the boundary conditions for a particular study be explicitly defined. In the physical sciences, for example, it is important to know that the boiling point of water is 212°F. at sea level only. In the behavioral sciences, the boundaries are more difficult, and some think impossible, to define so precisely. Many studies reported here do not meet these criteria. More of the later studies have more sophisticated methodology.

Included in the discussion of this publication are (a) all the studies reported in accessible sources which provide evidence of the effects of nursery school or kindergarten experience on children's development in the areas of social, personal, and emotional development; intellectual growth; and later school achievement; and (b) a selection of studies which had the primary objective of understanding fundamental processes of child development in these areas. The three summaries of research studies mentioned in the Foreword have been drawn upon heavily (Fuller, 1960; Sears and Dowley, 1963; Swift, 1964). Consideration of many additional studies is included, particularly in the areas of race awareness in young children, dramatic play, and intellectual development. The most recent studies analyzing nursery school environment and the effect of school attendance on some aspect of development of young children identified as culturally disadvantaged are also included.

Perspective on the appropriate role of research should be considered in setting the limits of this publication. To expect that research alone can prove or disprove the values in early childhood education is an oversimplification. Research is most appropriately used for related questions that attempt to determine whether one or a group of conditions produce one or a group of outcomes. The clearer the controls, the more accurate the answers. Each research study, employing adequate methods, can clarify a little of the whole experience of nursery school or kindergarten. These clarifications add up to better understanding, which in turn tends to pose new questions. Philosophy of education and social and personal values must all pro-

vide the broad guidelines to practice and evaluation. Research can provide the corrections to calculations which keep us on course. A still further and perhaps even more important element research provides is the joy of discovery and fresh insight which keeps us curious. T. S. Eliot expresses this value poetically:

"We shall not cease from our exploration.
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time."
Four Quartets

*chapter*

# II

# Social and Emotional Development

The reason most frequently given by parents for sending a child to nursery school is "so he can learn to get along well with other children." Their reasoning usually goes like this: Current small families and urban living make social experience with peers infrequent or nonexistent, unless planned for. Planning is necessary either because social awareness and skills are highly valued by parents or because they believe a modicum of social ease is necessary before a child can "concentrate on learning" in first grade.

Professional people responsible for groups of young children and aware of the complexity of social and emotional development plan for many interrelated factors. Child development investigators state that, during the preschool years, children must move from self-centered impressions and relationships to an awareness and appreciation of the world of people and things outside themselves. Only when a child is able to direct his energies to finding satisfaction in the world around him can he be capable of objective thinking and problem solving. Bruner (1959), for example, in a study comparing normal elementary children with children who were blocked in learning, says that the cognitive organization of the blocked children differed radically from that of normal learners. The blocked learner characteristically is so busy defending himself that he never copes with the problem at hand. The thinking of "defenders" never moves beyond the affect-laden conceptualization of the young child. Bruner believes that prevention of learning difficulty depends on three factors—play, identification, and freedom from excessive drive and anxiety.

Trusting the world enough to explore it involves the child in relationships to important people—parents, then other important adults, and then other children. In a school for young children, then, the teacher is concerned with each child's relationship to his parents—how he has been nurtured and controlled, the meaning for him of separating from them in order to be at school. The teacher is concerned with the adult-child relationships at school—the types of attitudes, guidance, and control which move children toward greater objectivity, toward feeling safe and competent. The teacher wants to know about peer relationships—how a child views other children, what qualities within him are associated with successful group participation and at the same time build his strength and self-esteem, what elements in a group are potentially destructive to the individuals within it, what elements build group awareness. The teacher needs to know what activities in school help children gain clearer understanding of the roles society expects them to play.

## STUDIES OF OVERALL EFFECT OF SCHOOL EXPERIENCE ON SOCIAL DEVELOPMENT

Fuller (1960) summarized 11 studies that pointed out the relationship of early childhood education to "later adjustment to school" and 6 studies of the effects of early childhood education on "general social adjustment," though she drew no general conclusions. Similarly, Sears and Dowley (1963) briefly described results of 14 studies in the area of social development resulting from nursery education but drew no conclusions. Swift (1964) has this to say:

> "A number of early studies in this area reported findings based on repeated observations of the same child over a period of attendance

in the nursery school. Their findings, while interesting and suggestive, cannot be taken as evidence that nursery attendance caused the changes noted, since the effects of maturation cannot be ruled out in the absence of either a control group or standardized norms for evaluating social development. Among these studies are those done by Ezekiel (1931), Mallay (1935), Andrus and Horowitz (1936), Horowitz and Smith (1939), Joel (1939), and Vitz (1961). In general, these investigations point to a greater degree of socially outgoing behavior, more successful use of social techniques, and greater maturity and independence over the period of observation. . . .

"Studies using the methodologically sounder approach of comparing nursery attenders with a matched group of non-attenders have been carried out by Walsh (1931), Cushing (1934), Hattwick (1935), Jersild and Fite (1939), Van Alstyne and Hattwick (1939), and Brown and Hunt (1961). Several recent studies evaluate the extent to which nursery school and/or kindergarten experience can be shown to make a difference to social adjustment in the elementary school years (Allen and Masling, 1957; Bonney and Nicholson, 1958). While a number of these studies have reported positive findings consistent with the hypothesis of better social adjustment following nursery attendance (Walsh, Cushing, Hattwick, and Allen and Masling), others have not (Bonney and Nicholson, and Brown and Hunt). In general, these studies have not resulted in clear-cut findings reflecting superior social adjustment on the part of children who have attended nursery school over those who have not."

Swift's generalization that "these studies have not resulted in clear-cut findings reflecting superior social adjustment" appears to be based on her concern for accepting any finding that flows from a study with less than "tight" methodology. Of the five reasons she cites for the inconclusive results, four have to do with the shortcomings of methodology and one with the variety of activities provided in different schools in the name of social experience. Actually by her own summary, 10 studies indicated positive social learning, while only 2 did not. Jersild (1954, pp. 274-75) is more positive in interpreting research indications of the social value of the nursery school experience as are McCandless (1961, pp. 384-85), Stone and Church (1957), and others.

However, Swift's concern for generalizing about the results of global studies is well taken. The inappropriateness of research questions that are not clearly controlled has already been discussed. Reasons cited by Swift for inconclusiveness of this group of studies are:

1. The wide variety of social experience, guidance, and learning provided in different nursery school settings precludes generalization.
2. There was a lack of control of factors operating in the decision to send a child to nursery school or kindergarten.
3. Re-examination of children in the elementary school environment to test results occurred at different ages and grades.
4. Investigators assumed a wide variety of behaviors to be indicators of social and emotional development.

5. Teacher ratings have notable inadequacy as a measurement.

## SECURITY AWAY FROM HOME

Andrus and Horowitz (1938) studied effect of nursery school on insecurity feelings. The method employed, about which the investigators themselves expressed doubts, precludes interpretation.

A more recent study related to emotional adjustment is that of Glass (1949) to determine possible negative effects of a full-day program on two- to five-year-olds whose mothers worked. The group studied attended the nursery for six and one half to ten and one half hours daily. A control group of children cared for at home by their mothers was also studied. Eating, sleeping, elimination habits, and incidence of problems allied to personality or behavior difficulties were studied. Findings indicated only slight differences between the two groups, and the author concluded there is no evidence to suggest children cared for in a day nursery are more likely to present developmental problems than those cared for by their mothers.

A study by Heinicke (1956) compared two groups of two-year-olds when first separated from their parents, one group in residential care and the other in day care. It appeared that even though the day care children were in the nursery six and one half to ten and one half hours a day, their separation from parents did not have the same effect as that experienced by children in residential care.

Studies of maternal deprivation, summarized by Bowlby (1951), Yarrow (1962), and Ainsworth (1962), have raised some concern for the harmful effects on the young child of being separated from his mother. Degree of relevance to nursery school education is a matter of question because of the differences in age of children studied and the extent of separation. Rose (1962) points out the complexity of factors—physical, social, and emotional, past and present—which contribute to the meaning of separation for a particular child. These studies have, however, occasioned re-examination and modification of nursery school and day nursery procedures. Parents are now encouraged to gradually introduce the young child to a group program with plenty of opportunity to establish confidence in his teacher, the situation, and the fact of his parents' returning. The Vassar film, "Patterns of Beginning," demonstrates how feelings of anxiety can be allayed by the way entry to school is managed. Some teachers believe this film indicates an anticipation of difficulty on the part of the child which makes him feel fragile and more vulnerable. Certainly a straightforward attitude of expecting a successful separation with awareness of its meaning to the child is most helpful.

## CHILD-PARENT RELATIONSHIPS

The young child's home experience will affect what social values he derives from a program of early childhood education. Several studies have focused on the relationship of specific home factors and social adjustment. For example, Baldwin (1948, 1949) found a "democratic" atmosphere at home to be associated with free and active participation in nursery school activities, the likelihood of more suc-

cessful aggression and self-assertion, and creative and constructive behavior. "Indulgence" behaviors of parents at home were associated with physical apprehension and inhibition in large muscle activity for the child at school. Marshall (1961) found that a child's ability to get along with his peers and his status in the nursery school group were related to the frequency of his dramatic play language and dramatic play hostility. His ability to indulge in these types of activities was in turn dependent upon wide informational experiences with adults at home and negatively related to parental attitudes of suppression, punitive control, and overpermissiveness. Crandall, Preston, and Rabson (1960) studied achievement behavior in relation to dependence and maternal behavior. They found high-achieving children to be less dependent on adults. Direct maternal reward for effort and approval seeking, rather than maternal affection and independence training, were found to be predictive of high achievement.

One might reason that the result of these studies indicates that success in nursery school is more possible for children who are already successful (as one often hears the quip that character-building agencies are only available to children who already have developed character). The reason for these studies, however, was to find out why children behave as they do. The practical application of findings lies with the teacher's use of the information, not only to influence the school setting to achieve goals for each child in the group but also to apply in her work with parents. The special outcomes for children of nursery school and kindergarten experience are profoundly influenced by the quality of home-school relationships.

## TEACHER GUIDANCE

Studies that relate types of adult guidance and attitude to children's emotional dependence or independence are appropriate material to this review of social values in early childhood education. Early kindergartens expected teachers to be delighted participants in children's activities, leading and guiding children by being one of them grown taller and wiser. Early nursery school teachers were affected by Watsonian psychology and emphasized "objectivity," standing back and observing, withholding physical assistance or affection in order to encourage independence. More recently, however, the role of the teacher has reflected trends in findings of psychology which give significance to the effect of warmth and acceptance on learning. The initial change in point of view was doubtless a result of psychoanalytic theory. Since then some experimental research has isolated various aspects of the concept with confirming results. How much and what kind of nurturing behavior on the part of teachers is most effective is a question still being studied. A general goal is stated by Sears and Dowley (1963, p. 823): "One aim of preschool education . . . is the achievement by the child of some emotional independence of adults without undue side effects such as anxiety or insecurity."

Detailed review of this important area of research about types of teacher behavior is beyond the scope of this publication. Since, however, values in early childhood education are clearly dependent on teachers, their understanding, values, and skills, a summary of trends seems indicated.

Swift (1964) has summarized studies devoted to teacher behavior. She lists investigators who have attempted to develop reliable methods of observing and classifying teacher behavior in nursery settings—Bain (1928), Foster (1930), Anderson (1939), Landreth and others (1943), Appel (1942), Thompson (1944), and Reichenberg-Hackett (1962). Some investigators have presented organizing concepts that help to make classifications more meaningful—dominative and integrative (Anderson, 1939); extensive and restrictive (Thompson, 1944); interference-facilitation (Bishop, 1951); encouragement-discouragement (Reichenberg-Hackett, 1962). To these cited by Swift can be added the two-dimensional authoritative-permissive, cold-warm classification of Prescott and others (1964, Appendix A) in a study of day care.

Some studies attempt to relate various teacher behaviors to particular factors, i.e., to types of children in the group (Tucker, 1940), age of children in group (Foster, 1930; Appel, 1942; Landreth and others, 1943; Reichenberg-Hackett, 1962), professional experience and/or training (Landreth and others, 1943; Nesbitt, 1943), personality of teacher (Reichenberg-Hackett, 1962). An excellent summary of studies done on elementary school teachers has been prepared by Getzels and Jackson (1963).

Sears and Dowley (1963) ably describe research on teaching method in the nursery school to which the interested reader will want to refer for expansion of the summary given here. Research on the effect of the teacher's warmth, nurturance, and attention giving has been done by Hartup and Keller (1960), Rosenblith (1959), Bandura and Huston (1961), Milner (1951), Gewirtz (1954), Gewirtz and Baer (1958a, b), and Gewirtz, Baer, and Roth (1958). Hartup found in individual experimental sessions that continuous nurturance was less effective than nurturance followed by nurturance-withdrawal on girls' performing tasks that involved concept formation and memory. For boys, however, there was no clear difference.

Rosenblith, using similar techniques and focusing on an assigned task involving cognitive function, demonstrated that having a "model" was more effective in helping a child learn than was simple opportunity for practice. If this warm adult is a male, according to the study, the results are more striking than when a female adult model is used. (Since there are so very few adult males working in the nursery school as compared to females and since the types of males are, to date, not always representative of the "average" male American, a word of caution should be given to any interpretation of results. The statistics may be significant, but are the N's large enough and the populations of males varied enough to compare with the large and varied female populations of nursery school teachers?)

Bandura and Huston's experiment tested the hypothesis that nursery school children, while learning to solve problems, also learn to imitate certain of the experimenters' behaviors which are totally irrelevant to successful performance of the required task. Results indicated the effects of nurturance on this imitation. Children who experienced a warm relationship to the adult model showed more imitative behavior than did children who experienced a cold and distant relationship to the experimenter. One exception was that aggressive behavior was readily imitated regardless of the child-model relationship.

Gewirtz and others did a series of studies relating to emotional dependence in children which have relevance to the teachers' role. Their results confirmed that attention seeking on the part of children is greater when adults are less available.

Sears and Dowley (1963) interpret these studies on the nurturing behavior of teachers in this way:

> "Warmth and nurturance, given by adults to young children, clearly affect performances by children on concept formation, memory, maze performance tasks, and imitation of adults' irrelevant behavior. Nurturance, and subsequent withdrawal of nurturance, appears generally to yield the strongest effects. Possibly children interpret the withdrawal as a threat to the warm relationship, and hence are motivated to greater effort in an attempt to win back the rewarding warm interaction. The effects have been tested only over short periods of time; it will be valuable to pursue these relationships over longer periods." (p. 828)

Probably these studies tell us that good teaching is built on accepting facilitating relationships between teachers and children, and from this basic nurturing relationship the teacher can and should indicate disapproval for performance which is inappropriate for the situation.

Dominative and integrative behavior of teachers was a concept studied by Anderson and others between 1937 and 1946 (Anderson 1937, 1939, 1943; Reed, 1946). Employing observations in naturalistic settings in nursery school and kindergarten and later in primary grades, the studies are noteworthy for their careful theoretical formulation and painstaking methodology. Integrative behavior is similar to "democratic" and dominative to "autocratic" ways of working with people. While results are complex and not easily generalized, the authors state these conclusions:

> ". . . that these kindergarten teachers had higher mean frequencies of dominative than integrative contacts; that, among the contacts initiated by the teacher, two out of three were dominative; that, on the other hand, among teacher contacts which resulted from the child's initiative, six out of seven were integrative. It was revealed, however, that these teachers were meeting aggression with aggression; that they were systematically inciting resistance and not systematically cutting the vicious circle." (Anderson and Brewer, 1945, p. 156)

This study clearly demonstrates the result of teachers being unaware of, or unable to implement, well-documented knowledge available through research. The now classic studies of Lippitt and White (1943) with older children confirm the effectiveness of the teacher's democratic or integrative methods of guidance and control.

Effect of the amount and type of active guidance teachers give children in the nursery school was the subject of a unique and noteworthy study by Thompson (1944). Two groups of children were carefully matched on various personality traits, as well as intelligence, age, and socioeconomic position of parents. Each group experienced an eight-month nursery school program under guidance of the same head and assistant teachers, but each was planned with quite a different group atmosphere. Both curricula were constructed to be responsive

to children and ensure their safety. The two fundamental differences were—

1. In curriculum B the teacher was instructed to develop a particularly warm friendship with each child; in curriculum A such a cultivation of friendship with the children was not to be emphasized.

2. In curriculum B the teacher was instructed to stimulate the children's activities by her skillful arrangement of the play materials and to help the children develop their self-initiated activities by giving them information and help whenever she felt that such information and help would be to their advantage; in curriculum A the amount of teacher participation in the children's play experiences was to be dependent on the children's requests for help and information from the teacher (Thompson, 1944, p. 2).

Results of systematic observations and tests of individual children revealed these results as summarized by Sears and Dowley (1963):

> "The results showed that Group B, the highly guided group, (a) was more constructive when faced with possible failure than Group A; (b) was more ascendant than Group A; (c) showed more participation; (d) showed more leadership; and (e) was significantly lower than those of Group A in destructive behavior." (p. 834)

Aggression and its appropriate control is part of young children's development which teachers affect in school. Each child must master aggressiveness as he learns how to find satisfying relationships with people and to find a comfortable and functional level of assertiveness to meet his own needs. Just what kind of adult guidance and control is most helpful to children who are learning self-control is the question. Nursery school teachers in general are probably more tolerant of young children's lack of control of aggression than are kindergarten teachers. Reasons for this difference include appropriate teacher expectations for the different ages, the necessity for a kindergarten teacher usually managing a larger group alone, and the more clearly defined curriculum of kindergarten.

Sears and Dowley (1963) summarize the research of Bandura, Ross, and Ross (1961) on occurrence of aggression and its inhibition through imitation of adult models, Siegel and Kohn (1959) on teacher interference in children's quarrels, and Kounin and Gump (1958) on the effect of teacher control of a misbehaving child on the "watching" kindergarten children. They conclude:

> "Influences on aggression: Aggression and fighting in children have been shown to be influenced by several factors: (1) Direct interference by teachers, which may cause fighting to decline for a time, only to recur when the interference is less strong. (2) Presence of a permissive adult, which seems to increase the freedom with which aggression is shown, as if the children watch for cues of disapproval from adults and permit themselves the luxury of expression of aggression when they feel it will not be disapproved. (3) Seeing an adult behaving aggressively, which makes children more likely to imitate him, particularly if the adult is a male; female adults do not seem to carry the same stimulus properties

as males in the case of aggression. (4) Finally, viewing the behavior of an inhibited and non-aggressive adult, which makes children's behavior become much subdued, even to the extent of apparent reduction in exploratory and socially approved types of interaction with the environment.

"These findings point to the importance of the teacher's own behavior as a model and strong influence on the behavior of children. . . ." (pp. 838-39)

Teaching methods that rely on frustration have usually been considered undesirable in early childhood education. This belief is confirmed by specific research studies such as those on children's behavior following frustration—Yarrow (1948); Barker, Dembo, and Lewin (1943); Wright (1942, 1943). Block and Martin (1958) studied relation of ego control to behavior following frustration. Chasdi and Lawrence (1958) studied effect of punishment for frustration and aggression. Sears and Dowley (1963) summarize the insights gained:

"In short, children frustrated by the environment, or by an adult in the environment, react with both aggression and regression—the latter shown by a decrease in the constructiveness of the play. Aggression may not come out directly toward the frustrating adult, but may appear, in a displaced form, in other situations less fraught with danger for the child. The presence, in the frustrating situation, of a good friend of the child provides support in the expression of aggression directly toward the frustrating adult." (p. 841)

There is some evidence that frustration interspersed with success results in increased persistence and goal-directed behavior (Amsel, 1958).

Specific small-group training experiments related to social development have been undertaken by a number of researchers. Helping nonparticipating children to become more ascendant through skills training was successfully demonstrated by Jack (1934). Page (1936) found similar training increased ascendance in free play. Mummery (1947) used similar training to increase security and self-confidence. Children so trained showed more ascendance in a number of ways, some socially constructive and some not.

Chittenden (1942) demonstrated successful training procedures to increase cooperative behavior on the part of dominating children by a series of stories with dolls. Keister (1937) showed how children with initially very immature and undesirable responses to failure could be trained to respond in more mature and effective ways. The individual training sessions employed over a six-week period involved (a) use of materials that were initially simple to use but became progressively more difficult and (b) an attitude on the part of the experimenter which encouraged the child to do the task without adult assistance.

## CHILD-CHILD RELATIONSHIPS

Spontaneous relationships among children in a nursery school or kindergarten are the basis for a major share of the social values of early childhood education. Surely the delight and enjoyment as well as the doubts and pain of daily life with people are the experiences on

which each individual's humanness is built. Extensive research has been done to identify characteristics of children's social relationships, and methods of research have been increasingly refined to make this study fruitful. The focus has been directed toward understanding the dynamics of social interaction in a "natural" setting. The teacher's understanding of these dynamics helps her make the value judgments involved in guiding individual and group experience toward positive outcomes. Swift (1964) summarizes studies of peer relationships more extensively than is done here. She points out that factors which have been studied most fruitfully are those relating to social interaction, status of the individual in the group, and development of group identity and social acceptance. In relation to studies of social interaction she says:

> "In general these studies have reported markedly similar findings with respect to patterns of social development. These can be summarized as follows: (1) There is an increase in all forms of social interaction with increasing chronological age in the preschool years . . . . (2) The child who ranks high with respect to one area of social activity, e.g., as being among the most actively sympathetic in the group, is likely to rank high with respect to other types of social behavior, to also rank among the children showing the greatest number of contacts. . . . (3) The wide range of individual differences observed in all areas of social interaction is another consistent finding of these studies. Generalizations made with respect to any of the variables discussed may be found invalid when applied to a given child. . . . (4) Behavior cannot be isolated from the situation in which it occurs; it takes its significance and meaning from the larger context in which it occurs."

Studies cited on the status of the individual in the group include those on leadership (Parten, 1933; Hanfman, 1935) and ascendance-submission (Jack, 1934; Page, 1936; Mummery, 1947; Emmons, 1933; Anderson, 1937, 1939). These studies point to the presence at this early age of both the "bully" and "diplomat" types of leaders. Several point out methods of special training and teacher behavior to develop more positive social skills.

Development of group identity with values and traditions of its own has been studied to some extent in groups of young children. Merei (1949) in a day nursery studied the relative strengths of group tradition and individual leadership. The investigator found leaders were forced to take over the habits and traditions of the group and to engage in the activities which the group had developed before he entered it. Swift (1964) further summarizes:

> "Studies of the group identification developed in the early preschool years by children living in the Kibbutzim of Israel (Irvine, 1952; Faigin, 1958; Spiro, 1958), as well as the findings reported by Freud and Dann (1954), attest to the reality and strength of this phenomenon. Further research into this area of social development in the preschool years is needed to provide a fuller understanding of the meaning of this identification in the development of the young child. There is still unanswered the question of whether it represents a positive extending of the individual's capacity for forming relationships through identification with others or whether it tends to inter-

fere with the development of personal goals and standards and tends to strengthen conformity at the expense of the individuality." (See also Rabin, 1957, 1958.)

Social acceptance in relation to various factors has been studied recently by sociometric techniques. Swift summarizes:

> "In general, dependence on adults has been found to be negatively correlated with social acceptance by peers. . . (Marshall and McCandless, 1957). The strength of this relationship is increased when 'dependence on adults' is further qualified as to whether it is 'instrumental dependency' (request for help) or 'emotional dependency' (request for nuturance) (McCandless, Bilous, and Bennett, 1961). As would be expected, emotional dependence was related to low social status; the degree to which a child requested help from the adult to further an activity of his own was unrelated to social acceptance by others.
>
> "Dunnington (1957) found generally similar relationships with respect to attention-seeking behavior on the part of children with high and low social status in their group. Low status children showed greater attention-seeking behavior toward the adult in an experimental play situation than did high status children, and with this, a greater resistance to adult suggestion or direction.
>
> "The relationship between hostility (and/or aggressive behavior) and social acceptance is one which is less clear-cut. Dunnington found that children with high social status showed a greater proportion of positive affect than did the low status children, and their aggression tended to be expressed within the context of thematic play. . . . Marshall and McCandless (1957) found that hostile interactions within the peer group were not related to social acceptance. Marshall (1961) found a similar relationship to that found by Dunnington between hostility in dramatic play and social acceptance; hostile acts within a dramatic play setting are positively related to social acceptance.
>
> "The child's development of a positive self-image is touched on by these studies. . . . How he is perceived by the children and adults around him will influence his own perception of himself as a social person. Hence, behavior which leads to unpopularity in the group, despite its relative harmlessness otherwise, may need to be considered seriously by those working with the child, and modified where possible. A circular pattern may obtain."

Studies of race awareness in young children have looked at (a) the degree of awareness which exists among young children, (b) attitudes toward children of differing color, (c) attitudes about themselves, and (d) whether children's reactions to each other on the basis of color are identifiable. These studies are relevant to the above discussion of social acceptance and self-concept. Goodman (1952) and Stevenson and Stevenson (1960) found that under neutral conditions, young children do not react to each other primarily in terms of differences in racial characteristics. They respond to each other as individuals.

Taub (1963), in an unpublished paper at Pacific Oaks College, summarized 12 studies on race awareness in young children in three general statements: "Preschool and elementary aged children perceive

racial differences. With greater age comes keener perception." (Clark and Clark, 1952; Radke and Trager, 1950; Morland, 1958; Stevenson and Stewart, 1950; Goodman, 1952.) "Negro children are less able than are Caucasian children to make correct racial self-identifications. Their identification ability is below recognition ability." (Clark and Clark, 1940, 1952; Horowitz, 1939; Morland, 1958; Stevenson and Stewart, 1950.) "Preschool aged children (both Caucasian and Negro) value white skin. They prefer white children as playmates (in static test situations). They accept the status quo status levels regarding race. With age the pro-white feelings grow." (Clark and Clark, 1952; Radke and Trager, 1950; Helgerson, 1943; Goodman, 1952; Stevenson and Stewart, 1950.)

Landreth and Johnson (1953), using a picture and inset test designed to reveal reactions to persons of white, brown, and black skin color, studied 228 three- and five-year-old children of white upper, white lower, and Negro lower socioeconomic groups. They found that white upper-class groups apparently perceived the inset series as a matching problem. White lower-class children saw the series as a problem involving skin color preferences as well as matching. The Negroes apparently perceived the series as a problem in skin color preference.

> "The implications of the findings would seem obvious. Patterns of response to persons of different skin color are present as early as three years and become accentuated during the succeeding two years. Though living in a democracy, many Negro citizens apparently learn by three years of age that skin color is important, that white is to be desired, dark to be regretted. As for the white skinned citizens, what they learn in their first five years about skin color appears to be related to their parents' occupation, education, intelligence, and residential neighborhood. Young children of parents engaged in professions perceive skin color in cognitive terms, children of parents engaged in semi-skilled occupations perceive it in affective terms." (p. 78)

Trent (1957) found that self-accepting Negro children tended to express more positive attitudes both toward other Negroes and toward whites than did Negro children who were less self-accepting. If the child did not accept himself as a person of worth he tended to perceive groups, including his own, in a derogatory or hostile fashion. Again, prejudice can be seen to be not only a social problem but a symptom of individual maladjustment.

## SEX-ROLE IDENTIFICATION

One of the learning tasks for a young child is developing an appropriate sense of identification with his or her sex. Theory as to how this occurs is based in psychoanalytic concepts which give significance to emotional ties developed between a child and the parent of the same sex. The quality of these ties is dependent on the dynamics of dependency and gratification, affection and rivalry developed within the family. Recently a number of behavioral psychologists have carried out research studies placing this process in behavioral terms (Bronfenbrenner, 1960). The interested reader may refer to a number of references which summarize the significant research (Brown, 1956; Kohlberg and Zigler, 1961; Mussen and Rutherford, 1963; Spencer, 1964).

The nursery school and kindergarten are concerned in this process for the sake both of the child's own development and of the social implications. The preschool years seem to be significant in this learning.

> "When a mixed-sex group of 3-year-olds is playing house, there may occasionally be a crossing of sex roles—a boy may be a 'nurse' or even a 'grandmother'—but this very rarely happens at kindergarten age. Boys are males by then and girls are females. . . . We can distinguish three main types of learning: trial and error . . . direct tuition . . . role practice. Most of this practice occurs as fantasy, and much of it is covert." (Sears, Maccoby, and Levin, 1957, p. 369)

Kagan and Moss (1962) indicate that recent longitudinal study evidence places sex-role learning in a central position in relation to enduring aspects of adult personality. When children, followed from birth to adulthood, were asked sex preferences at different ages, a relatively stable picture emerged. Boys' sex-role preferences expressed at preschool ages were highly predictive of subsequent adult interests for these individuals.

The goal of the school is encouragement of appropriate sex-role identification. This encouragement can be offered in three ways: through adult models and influence techniques, through the normal social relationships among children themselves, and through the dramatic play opportunities fostered in the curriculum. Since most nursery and kindergarten teachers are women, the school often makes special arrangements for visitors in order to provide some male contacts for children—a policeman, a maintenance man, a father of a child in the group. Teachers also encourage and reward the child's efforts to assume the appropriate role in play and in the normal social relationships of the classroom. They do not punish for an incorrect role, for a young child needs time to learn, to experiment with roles in order to take care of feelings associated with his or her self-concept. To this end the housekeeping corner provides a setting and the props for re-enactment of family relationships, and other types of dramatic play are encouraged which offer opportunity to take uniquely masculine or feminine roles.

## DRAMATIC PLAY

Dramatic play is significant in the curriculum of the nursery school and kindergarten. Taking cues from children's spontaneous play, early psychoanalytic theorists developed a rationale for the learning which occurs for children when they spontaneously act out in play the roles and situations they see around them. Detailed observations tended to support the theory, and dramatic play became an educational tool. The time, space, and materials were provided by teachers to extend the play.

Isaacs (1933) studied groups of children, 31 in number, over a three-year period from 1924 to 1927 in the Malting House Nursery School of England where she was the director-teacher. Her recorded observations—among the first of their kind available—and her interpretations served to stimulate thinking and guide practice. She refers to the records, taken by teachers on the spot and ampli-

fied by more detailed dictation after the children left each day, as "qualitative records—an essential preliminary to fruitful experiment in genetic psychology, . . . an indispensable background and corrective, even when experimental technique is perfected. Without such a background of the total responses of children to whole situations, partial studies of this or that response to limited experimental problems may be no more than sterile and misleading artifacts" (p. 4). Her records are analyzed to illumine early social-emotional development in light of psychoanalytic theory. Of social development in fantasy play she says,

> "Typically, . . . the play of a number of young children is little more than a congeries of individual phantasies. When these . . . happen to overlap, they give rise to common activity, and may for the time being weld the players together into a group. As the children get to know each other, and build up a common history, the mutual adaptation of phantasy occurs more and more often. They gain the experience of doing things together and discover the delights of mutual support, both in imaginative play and in real achievement. . . .
>
> "The rebellion of the players in the child's own game, and the enforced reality of their phantasies and wishes, bring the first shocks to his egocentric assumptions and provide his first effective social education. This education is carried further by the experience of real togetherness on those occasions when phantasies do happen to harmonize and feelings and activities are shared in more mutually adapted play." (pp. 215-17)

Markey (1935) on the basis of systematic observations outlined types of dramatic play activity characteristic of children two years of age to four years, two months. She lists the following in order of most frequent occurrence:

| | |
|---|---|
| 2 years: | Make-believe use of material<br>Make-believe situations<br>Games involving personification |
| 3 years: | Make-believe use of material<br>Make-believe situations<br>Dramatic play<br>Construction activities |
| 3-1/2 years: | Make-believe situations<br>Make-believe use of material<br>Dramatic play<br>Construction activities |
| 4 years: | Make-believe situations<br>Dramatic play<br>Construction activities |

She also observed that the cultural background of the children was reflected in the episodes they carried out in dramatic play.

The study of Hartley, Frank, and Goldenson (1952) remains the most complete analysis in the United States of dramatic play and its potentialities for children's growth. Through analysis of observational records made by trained observers, the investigators

showed how dramatic play was both a "mirror of the child" through which the teacher could discover more completely the state of his social, emotional, and intellectual growth and an "instrument for growth." Records were cited "to show how this type of play reflects and encourages changes in attitude and adjustment, and supplies a laboratory in which the child may experiment with possible solutions to his problem."

Records of 260 spontaneous dramatic-play episodes involving 80 children in 33 different groups were analyzed. Twenty-one of the children were considered well adjusted; 33, aggressive; 28, anxious or withdrawn. According to the study, the functions of dramatic play for three- to five-year-old children are to—

1. Imitate adults.
2. Play out real-life roles in an intense way.
3. Reflect relationships and experiences.
4. Express pressing needs.
5. Release unacceptable impulses.
6. Reverse roles usually taken.
7. Mirror growth.
8. Work out problems and experiment with solutions.

The investigators underline the idiomatic nature of dramatic play; the same role taken by different children may mean different things. Common motifs expressed in dramatic play persistently fall into the categories of protection, power, and attack and destroy. Children with difficult problems are preoccupied with one motif, while the well-adjusted children slip from one to another.

Four general aspects of the child and his world which are strikingly revealed in dramatic play according to the investigators are—

1. Characteristic flavor of the child's world
2. His own pressing needs
3. What he thinks of himself
4. His preoccupations and problems.

Controlled experimental studies of dramatic play and its social-emotional values are lacking. Maccoby (1959) outlines a theory that children acquire a repertoire of behavior by practicing covertly the characteristic actions of other people with whom they interact.

> "When a young child does imitate actions that are appropriate only for adults, he is likely to meet with a negative reaction from his parents. . . . [He is taught] certain activities denied him now, he will be allowed to perform when he is older. . . . Certain of the response tendencies thus acquired may not manifest themselves overtly until a much later time. . . . "

Belief has been held for many years in the catharsis effect of aggression expressed through dramatic play of various types. On the basis of this theory, if children express in fantasy play the hostile aggression they feel within themselves, they drain off the hostility so that it will be neither bottled up to cause undue inner tension nor expressed inappropriately in real-life situations. Several current experimenters claim this theory is denied by experimental research. Bandura and Walters (1963, p. 406) summarize a review of studies

by saying, "If conclusions were to be based on studies of children alone, the catharsis hypothesis, in all its forms, would have to be discarded. Findings from studies with adult subjects are much less clear cut. Generally speaking, participation, direct or vicarious, in aggressive activities seems to increase the incidence of subsequent aggression, both in the same and different stimulus situations. . . ."

Clinical evidence, however, supports the catharsis hypothesis. Is it possible that through aggressive fantasy in a play therapy situation the child is helped to recognize and be aware of his own feelings for the first time, whereas in the educational setting aggressive fantasy play prevents the child from learning to control feelings of which he is already abundantly aware? This is not a clear-cut and simple differentiation when dealing with young children who are quite normally in process of developing both self-awareness and control of impulses. One of the major and unclear questions for nursery school education at this point deals with the valid degree of transferability of theory and practice in clinical settings to educational settings.

*chapter*

# III

# Intellectual Growth

Heightened general interest in intellectual achievement has been abundantly evident since Sputnik. Even before that time, critics of education had raised a banner for more rigorous content and earlier teaching of most subjects. The effect on the nursery school and kindergarten has been pressure from some quarters to include direct teaching of the 3 R's. The pressure has been countered by most teachers—defensively by some, more open-mindedly by others. There is no doubt at this point, however, that healthful re-evaluation of curriculum in early childhood education is proceeding all over the country and that this re-evaluation is primarily concerned with cognitive processes. The goal remains to identify and develop those styles of intellectual activity which lead one at a later age to become an educated man.

## IQ AS A MEASURE OF INTELLECTUAL VALUES

Early research on the intellectual values of early childhood education was preoccupied with the effect of nursery school attendance on the IQ. A battle raged over the validity of claims on both sides. Suddenly, further investigation stopped. (One wonders whether the heat of the battle didn't warn too strongly of burned fingers for any investigator who ventured close.) The efforts during these years, however, clearly indicated that environment made a difference in intelligence. The nature-nurture controversy became a "dead horse" since it became clear that both factors determine intelligence.

Among numerous early studies (1925 to 1945) reporting improvement of intelligence as measured by IQ resulting from nursery schooling, the most extensive were those of the Iowa group summarized by Wellman (1943). The findings of these studies generally reflected gains in IQ by children attending nursery school. These findings were not duplicated by the majority of investigators at other institutions during the same period (Kawin and Hoefer, 1931; Anderson, 1940; Bird, 1940; Olson and Hughes, 1940; Jones and Jorgenson, 1940; Lamson, 1940; Goodenough and Maurer, 1940). Fuller (1960) summarized: "It is impossible to reach any definite conclusions as to the effect of early school attendance upon mental growth. The results vary; the interpretations of results vary more than the results." Perhaps, again, the variety of experience represented in the name of nursery education is a factor which contributes to the unfruitful procedure of asking such a "global" question.

Currently IQ measurement is one of many methods being used to assess the effect of nursery school experience on culturally disadvantaged preschool children. Deutsch (1963) indicates "in a preliminary analysis of some of our recent data . . . we find higher group intelligence test scores among children who had pre-school and kindergarten experience, as compared to those whose initial contact with school was in the first grade." (Other investigators are reporting similar findings as indicated in reports in Appendix A, i.e., Brain, Klaus and Gray, and Strodtbeck.)

## INTELLECTUAL DEVELOPMENT IN THE HIERARCHY OF VALUES

In other areas of relationship between intellectual growth and early childhood education, early studies are remarkably scanty. The

historic roots of both kindergarten and nursery school movements have some bearing on their goals. The European antecedents of the American kindergarten—Pestalozzi and Froebel—were interested in the then new naturalism. Montessori was highly interested in intellectual development but never moved from dogma to research. Origins of the nursery school movement in the United States had child study and welfare purposes. The influence of mental health was strong in early childhood education from the thirties into the sixties. Lawrence Frank's (1939) pamphlet, "Fundamental Needs of the Child," had far-reaching implications which guided practice. Intellectual development, of course, received some continuing attention from teachers and researchers during this period. However, people tend not to cope with too many interests at once, and mental health was clearly paramount. William Martin, in an address at the biennial conference of the National Association for Nursery Education in 1957, accused nursery educators of placing too much emphasis on "adjustment" to the neglect of "achievement" (1960-61).

That intellectual development of children does take place in the nursery school and kindergarten is clear to any knowledgeable teacher, but to most laymen it looks like "just play." What is the nature of intellectual development in young children? Small wonder the process of developing cognitive powers is not clear when the nature of intelligence itself is still not clearly understood by the theorists! Hunt (1961) states: "It is in connection with intelligence and the tests which measure it that some of the most violent polemics in psychology and in all the behavioral sciences have raged." The dominant belief in the first half of the twentieth century in fixed intelligence and predetermined development has doubtless contributed to this lack of emphasis on intellectual achievement in early childhood education. "The pendulum of opinion swung hard toward the side of 'not pushing children in their intellectual development,' of allowing their basic natures to unfold, of letting them be themselves, but of helping them toward life adjustment" (p. 5).

## NEW CONCEPTS OF INTELLIGENCE

> "Old and popular definitions of intelligence such as 'the capacity to profit from experience,' or even, 'that which the intelligence test tests' imply something more global and more fixed than does the presently emerging view that intelligence is the variety of ways an individual has available for processing or organizing incoming information. Such a view allows for a more adequate analysis of the varieties of thinking that underlie intelligent behavior, and of the role that experience plays in their development." (Almy, 1963)

Current research evidence of the intellectual values in early childhood education comes most fruitfully from the research directed primarily at understanding the fundamental processes of intellectual development. In other words, practice in early childhood education is largely guided by theory and common sense. Practices reflect new findings and changing emphases of research in child psychology. These are retained or abandoned on the basis of teacher judgment—as yet without benefit of much controlled research to test assumptions. The various studies in progress with culturally disadvantaged

preschool children are providing positive research evidence to test these assumptions based on theory.

There is theoretical research which seems to guide and/or support intellectual values in early childhood education as well as research which evaluates the intellectual dimension of nursery and kindergarten programs. It is beyond the scope of this paper to review the huge body of research on intellectual processes and its implications. It must suffice to describe a few areas of investigation which suggest support for the value of some current practices and critical revision of others.

## PIAGET'S WORK

The work of Piaget, the Swiss psychologist, has influenced early childhood education to a great extent. Piaget and his associates have worked with young children more extensively than have other investigators, studying the process of developing intelligence.

> "Forty years have passed since Piaget reported his first observations of the way in which children construct the world. Since that time he has added to our knowledge more facts about cognitive development than any other investigator. Many of his observations have been called into question. . . . But . . . it remains the case that the Geneva school has told us more about the child's knowledge of the physical world than any other researcher or school. . . . Child psychologists . . . must take into account the enormous empirical literature which Piaget has contributed.
>
> "The place of his speculative or theoretical proposals is much more difficult to assess." (Kessen and Kuhlman, 1962, pp. 169-70)

Piaget's concept of intelligence emerging as it is nurtured, of growing as the child has things to act upon, has led good teachers to help children build new and larger concepts on the basis of former knowledge and experience. It has led them to provide rich direct sensory experience as the undergirding base for abstract concepts. It has led them also to encourage and stimulate language development.

Piaget and associates have worked extensively to blueprint the development of intellectual processes. His writing is difficult; his formulations, complex. Dr. Millie Almy, who has studied his work intensively and who is professionally oriented to early childhood education as well as psychology, has described the theory in terms understandable to the educator. The following excerpts (Almy, 1963) serve to summarize Piaget's theory and some of its implications:

> "Piaget's theory encompasses the development of information processing from the infant's earliest sucking, locking and eventually reaching and grasping, to the adolescent's ability to manipulate logical propositions mentally. . . . [It] takes explicit account only of the kind of thought that is clearly reality adjusted. It deals primarily with the ways the person gains factual knowledge and the ways he orders facts, but not with the ways he feels about or values them. . . .

"The child is born with receptors that bring him information, initially meaningless, about the sights, the sounds, the tastes of the world around him. Similarly he is endowed with motor equipment that soon enables him not only to focus visually but even to turn his head toward an object, a face, a sound. Gradually his hands follow the lead of his eyes, and impressions from visual and auditory modalities are coordinated with tactual information.

"From the standpoint of developing intelligence, he may be regarded as storing information in patterns of action. Piaget calls these sensori-motor schemata, and sees them increasing in complexity and relatedness throughout the first eighteen months or so of life. . . .

"For a considerable part of the infancy period the child's intelligence reveals itself primarily in what he does to the things he encounters . . . as his actions become better and better adapted, . . . it appears he no longer needs to operate on it so directly. He remembers previous actions and applies them mentally. Thus he enters into what Piaget has called representative intelligence. By now he has to some extent accommodated his own vocal productions to those he has heard around him and is beginning to assimilate a vocabulary. He has labels for some of his own actions. Such labels, and the ability to acquire more, tremendously speed up the rate at which he can store information and of course also speed up the process of information retrieval.

". . . Let us note three important aspects of the theory so far: First, this is more than a maturation theory. The increasing complexity and adaptibility of the action patterns is dependent not only on growth, but on the child's opportunities to act on something. Second, what a child assimilates . . . in part depends on the patterns he already has available. Third, new patterns do not emerge full-blown and perfect. They are spontaneously practiced as the child plays in his crib, his pen, his bath. . . .

"In summary, the infant does not maximize his intellective power unless he is exposed to a rather wide variety of stimuli . . . relatively well matched to action patterns the child already has available, and followed by much time for spontaneous play.

"Once he has begun to use language, the infant, now a toddler, enters a new stage of development, during which his ways of thinking become progressively more like those of the adult. Partly, this is a result of the child's becoming more and more adept at acquiring labels for experience, and also at matching new experiences to already available labels, that is, at forming concepts. Partly this progress comes from an increasing ability to isolate particular aspects of experience and to deal with the relationships between those aspects mentally rather than directly.

"Just as the young child acquires labels for the objects in the environment, so he also learns to label their properties and attributes. He notes color, shapes, sizes, textures, sounds, movement tendencies and so on. But, the concepts of properties

apart from the objects in which they are imbedded are difficult. The notions of relationships among objects implied in words like big and small, light and heavy, up and down, behind, beside and before are complicated by the child's tendency to judge them more from their reference to himself than their reference to each other. . . .

"Gradually, as the child checks his view of . . . situations with their actual outcomes he modifies his thinking to obtain a better fit with outer reality. . . . He not only assimilates the new information into already established categories but creates new categories and gradually develops greater flexibility in categorizing. . . .

"Just as the child's encounters with his environment in the sensori-motor period led him to the discovery of the constancy of objects, so in the period of 'concrete operations' he comes to the discovery of the invariance, or constancy of an increasing number of aspects of objects. From these discoveries he eventually arrives at a grasp of the mathematical idea that quantity is not changed when a set of objects is partitioned into subgroups and the physical idea that mass or substance do not change when the shape or appearance of an object is transferred. (Test examples include a ball of clay manipulated to different shapes, a group of blocks arranged in various groupings, liquid in differently shaped containers.)

"It is only recently that these tests have been tried with American children. In a study in which I am currently involved we tested some 330 children in kindergarten, first and second grade. In a middle-class school only 9% of kindergartners were able to conserve a number of blocks and a given amount of liquid. At first grade this percent rose to 32 and at second grade to 48. In a lower-class school the trends were similar but the transition was much less rapid and only 23% of the second graders there were able to conserve consistently. More important than the mere fact of transition is the question of its meaning. To what extent is the ability to conserve related to or facilitating of the child's thinking in other areas?

"Piaget associates arrival at the ability to conserve amount or quantity with the ability to perform a variety of logical operations heretofore impossible. These include not only . . . mathematics but also the operations involved in constructing logical classes . . . it is only now that he begins to be able to hold a large category constant while he manipulates subcategories. (For example: animal can be divided into land animals and sea animals, and the totality of animal will be larger than either land or sea animals; animal can also be divided into vertebrates and invertebrates.)

"Up to this point concrete operations, according to the Piaget theory, have been in formation. Beyond this, they are applied to more and more areas of experience. The turning point comes for more children around the ages of 7 or 8 years. Consequently, it is appropriate to regard the early childhood years, encompassing nursery school, kindergarten, first and second grade, as the years thought of as in transition between sensori-motor and concrete operations. . . .

"Now to review the principles discussed earlier. First, more than maturation is involved. The increasing complexity and adaptability of the child's thought is contingent on his opportunities to think about something, to have appropriate new experiences.

"Second, what a child assimilates, what gets incorporated into his repertoire of thought processes, what challenges him to reorganize or reclassify information is in part dependent on the processes and the systems he already has available. . . .

"Third, abstract patterns of thinking, like concrete patterns, do not emerge full-blown but are rather the product of a series of encounters with ideas in which the child's thought has accomodated itself to new relationships . . . and assimilated into thought processes so that they can be applied more and more widely."

Implications for early childhood education are clear in the principles of this theory and that of American investigators who have been influenced by Piaget:

1. The importance of sensorimotor experience is underlined.
2. Language, especially that which relates to labeling, categorizing, and expressing, is intimately tied to developing greater facility in thinking.
3. New experiences are more readily assimilated when built on the familiar.
4. Repeated exposure to a thing or an idea in different contexts contributes to the clarity and flexibility of a growing concept of the thing or idea.
5. Accelerated learning of abstract concepts without sufficient related direct experience may result in symbols without meaning.

## SOVIET RESEARCH

Research on various aspects of intellectual development is an important segment of current work in Russia. Berlyne (1963, p. 165) points out ". . . there are three bodies of work in child psychology of about equal volume as far as empirical data and theoretical ideas are concerned . . . literature in English, Russian and French. . . . If we restrict ourselves to English-language literature on intellectual processes in children, we shall probably have access to considerably less than a third of the significant work." Two streams of investigation of major interest stem from the work of Pavlov and Vygotsky, which are summarized in Berlyne's article.

Pavlov's views are often misunderstood in the United States. He has often been represented as thinking that all behavior consists of simple reflexes, each set in motion by a stimulus and that his conditioning experiments on dogs could be extrapolated to cover complexities of human behavior. This was not true of Pavlov, nor is it true of his followers today. "Toward the end of his life, Pavlov had reservations about the scope of his conditioning principles as applied to human beings. . . . These reservations resulted primarily from the

recognition of what Pavlov called the 'second signal system.' . . . Put briefly, the second signal system is the portion of the nervous system that is concerned with verbal behavior" (p. 168). It is characterized by greater sensitivity, speed, and flexibility in making associations and stimulating responses within the individual. A great deal of experimental work has been done with children on this second signal system which indicates marked differences between older and younger children. For older children, mental processes seem to be controlled by the second signal system while those of the younger child are not. In other words, these researchers associate verbal behavior with greater flexibility in thinking.

Vygotsky was also interested in the role of speech in controlling behavior.

> ". . . thought and speech are not quite the same thing. Thought does not grow out of speech or vice versa, but obviously, once thought and speech have appeared, they interact and influence each other intimately, and speech becomes the principal vehicle of socialization. In fact, the child begins by allowing his behavior to be directed by speech coming from others; later he uses speech to direct his own behavior as a by-product of his responsiveness to what others say to him.
>
> "Luria carried the inquiry further by showing that words have a number of different ways of influencing behavior, which appear at different ages." (pp. 174-75)

Zaporozhets is another contemporary Russian psychologist whose work stems from Vygotsky.

> "The point from which Zaporozhets starts is one that a number of Western psychologists also are beginning to take up: certain forms of human behavior are strikingly different from anything found in animals or even from some of the more automatic forms of behavior found in human beings. There are actions that are voluntary, and there are actions that are involuntary and automatic. Some actions appear to be conscious . . . while others do not. . . . " (pp. 176-77)

Psychologists have been reluctant in recent years to come to grips with whether this consciousness of behavior makes a difference in principles of learning. Zaporozhets believes—

> "that . . . psychologists must discuss consciousness and accept its problems as legitimate. He believes that conscious process is characterized by an accompanying orientation reaction in which the individual is constantly sensitive to feed back from all his senses as he is in process of achieving the goal. In other words he can modify thought and action in light of subtle cues which indicate whether he is on the track while he is en route to the goal.
>
> "The interesting finding that emerges from these numerous experiments is that verbal instruction and imitation are much more effective if they are directed toward orienting responses as well as executive responses. In other words, in teaching a child how to carry out a complex task, one must make sure that he is also taught how to organize his orienting responses. He must learn what to look at; his attention must be directed to the right cues. . . . He must make use of feedback from both the external situation and

his own action, and the experimenter must train him to do this. Several experiments show that the time to learn a task can be cut down if orienting behavior is specifically trained. . . .

"Coming still nearer to intellectual processes, Zaporozhets has related this work to thinking. Voluntary behavior is, or can be, planned behavior. When a child has behavior under voluntary control, he can plan ahead. . . .

"Planning behavior in advance means being able to reason about it, being able to think it out, and that means building up an image of the activity . . . the whole activity and what he is going to do when he meets each of those cues." (pp. 180-81)

Implications for early childhood education of this Soviet work would tend to underline the role of the teacher as being more directive, more consciously instructive than is the usual teacher of young children in American nursery schools and kindergartens. One must keep in mind the differing goals of the total educative process in each of the two cultures in order to maintain perspective. Certainly the importance of language is emphasized in its relationship to developing cognitive processes. This is similar to the implications derived from Piaget's theory. Direct firsthand sensory experience is also given importance, though perhaps not the extent that Piaget's theory requires. Zaporozhets' ideas about "building up an image of the total activity" imply varied and extensive direct experience on which an image can be based.

## ISSUES IN CURRENT THEORY OF COGNITIVE PROCESSES

A summary of the Second Conference sponsored by the Committee on Intellective Processes Research of the Social Science Research Council (Wright and Kagan, 1963) points out—

". . . one cannot help but be struck by the theoretical immaturity of that sector of behavior we call 'intellectual development'. . . .

"The praiseworthy attempt to make human cognition conform to the simplest kinds of theoretical structure used to explain animal behavior and human motor learning leads to a neglect of vital issues that need careful attention and explanation in their own right. . . .

"We are faced with two interlocking questions that must be answered before a theory of cognitive development can be written: How does the child acquire conceptual structures; and what mechanisms must be invoked to explain the abandoning of one structure and the taking on of another?" (pp. 191-92)

There are three issues in current theory which receive repeated emphasis, and all of them have relevance for early childhood education.

1. "If the child is impelled to organize stimuli for himself, then it is obvious that mediating responses—and linguistic labels, in particular—are the most important and effective means of doing so" (p. 192). (Mediating response is conceived as a unit of intellectual process which is a shortcut, a curtailed or attenuated response to bridge more quickly the gap between the stimulus and the overt response. American psychologists tend to empha-

size internalized verbal response as important in mediation. For Piaget, internalized action is most significant. The Russians have given greater prominence recently to orienting responses.)

2. Individual styles of organizing information and the dimensions of experience an individual uses for categorizing information are important to his ultimate cognitive ability. Many studies recognize individual differences in these modes of categorizing. There are the "splitters and the lumpers," the "analyzers and the synthesizers." Children appear to differ consistently in their tendency to analyze and differentiate experience whether presented visually, verbally, or tactually. Some research has endeavored to identify antecedents of various styles of categorizing information (Kagan, Moss, and Sigel, 1963).

3. Cognitive functioning is an active, questioning, testing, inventing, and information-producing behavior. Children demonstrate information-processing and discriminating behavior never explicitly taught. Curiosity and the "close hard look" seem to play a significant role in all cognitive functioning.

## CREATIVITY AND INTELLIGENCE

While there is a considerable body of research on creativity, almost none of it has been carried out with nursery age children and only a small amount with kindergarten children. The principles and theory, however, of creativity are consistent with much good practice in early childhood education. Two recent volumes summarize theory and research in the fifties on this topic to which the interested reader will wish to refer (Parnes and Harding, 1962; Taylor, 1963). Torrance, at the University of Minnesota, has probably done more experimental work with elementary age children than any other investigator.

Creativity may be defined in different ways—in relation to the product created, the process of creating, the person of the creator, or the environment in which creation occurs. Torrance (1963b) chooses to define creativity as "the process of sensing problems or gaps in information, forming ideas or hypotheses, testing and modifying these hypotheses, and communicating the results" (p. 3). Concepts of innovation, uniqueness, discovery, and openness to experience are involved.

"The beginnings of creative thinking may be found in the manipulative, exploratory, and experimental activities of the infant and the use of facial expressions, efforts to discover and test the meaning of facial expressions and gestures of others, and the like" (p. 5). Research on identifying creative thinking ability has been carried out extensively by Guilford (1962), Taylor and Barron (1963), and Torrance (1963a). Abilities involved are sensitivity to problems, fluency, flexibility, originality, elaboration, and redefinition. In general there has been little relationship between measures of these abilities and the more traditional measures of intelligence. A study in the University of Minnesota Elementary School (Torrance, 1963a, p. 7) indicated that the top 20 percent of children ranked on IQ scores excluded 70 percent of the children ranked in the top 20 percent on creativity measures. These results confirmed those of Getzels and

Jackson (1962) with secondary school subjects. Torrance (1963b) says, "In this writer's opinion, the weight of present evidence indicates that man fundamentally prefers to learn in creative ways—by exploring, manipulating, questioning, experimenting, risking, testing, and modifying ideas. Teachers generally have insisted that it is more economical to learn by authority. Recent research suggests that many things, though not all, can be learned more effectively and economically in creative ways rather than by authority" (p. 12).

The role of manipulation in creative thinking was investigated by Torrance (1963a). First-, second-, and third-grade children were required to invent ways to improve a nurse's kit, a fire truck, and a toy dog so that "they would be more fun to play with." (In a second part of the test, they were asked to list possible courses of action that Mother Hubbard could have taken when she found no food in her cupboard and to list the possible consequences of the cow jumping over the moon. In this second part, obviously no physical manipulation was possible.) In order to test the effects of degree of manipulation of objects on performance of the test tasks, the data were subjected to analysis of variance. Results indicated clearly that degree of manipulation significantly affected the number and flexibility of responses. "The findings of this study support the contention of Rossman (1931) that the manipulative tendencies are important in the psychology of invention. They suggest the need for reviewing and re-evaluating earlier theories about the development of manipulative tendencies in children. To encourage inventiveness, it would seem desirable to stimulate and implement, and thus keep alive, the natural inclination to manipulate and experiment with objects and ideas" (p. 117).

"Perhaps the biggest task in nurturing creativity during the preschool years is to keep alive fantasy until the child's intellectual development is such that he can engage in a sound type of creative thinking" (Torrance, 1963b, p. 20). Evidence suggests that creative imagination during early childhood seems to reach a peak between four and four and one half years of age, and is followed by a drop at about five when the child enters school for the first time (Andrews, 1930). There is some evidence from observation and crosscultural study that this drop is not an inevitable developmental phenomenon but rather a cultural discontinuity that penalizes these creative qualities for the child (Torrance, 1963a, p. 72). Demands for conforming to the rules, producing teacher-directed products, discouraging questioning, and pursuing individual interests are typical teacher attitudes in classrooms holding more than twenty children and one teacher. Getzels and Jackson (1958) as well as Torrance (1963a) point out that teachers usually prefer to have students of high IQ rather than students of high creativity in their classes. One of the difficulties of the teachers is to reconcile spontaneity, initiative, and creativity in the classroom with the maintenance of discipline.

Research evidence in favor of deliberate efforts to improve the quantity and quality of creative thinking for older children and adults is reported by some investigators (Gordon, 1961; Maltzman, 1960; Torrance, 1962). Experimental work has not been done with young

children and reported as research. The principles of teacher encouragement advocated by Torrance (1963b) (i.e., provide opportunities for creative behavior, develop skills for creative learning, reward creative achievement) are used by many good teachers of young children. Biber (1959) states—

> ". . . The kind of creative teaching I have in mind is no figment of my imagination. It exists; it can be observed; it has its own techniques and troubles; it is hard to do. Far from letting the children follow wherever their impulses lead them, it takes responsibility for stimulating, guiding, channeling, presenting and explaining; it cannot be accomplished by a passive teacher; it does not create Whitehead's bete noire, 'the inert mind.'"

Bruner's hypotheses in relation to the value of learning by discovery are relevant here. ". . . Discovery," says Bruner (1962), "whether by a schoolboy going it on his own or by a scientist cultivating the growing edge of his field, is in its essence a matter of rearranging or transforming evidence in such a way that one is enabled to go beyond the evidence so reassembled to new insights" (p. 82).

Bruner outlines benefits that might be derived from the experience of learning through discoveries that one makes oneself:

1. Increase in intellectual potency, how to go about accumulating information and organizing it effectively, sensing how to carry it. "The persistence of the organized child stems from his knowledge of how to organize questions in cycles and how to summarize things for himself" (p. 86).

2. Greater motivation from intrinsic rewards." . . . To the degree that one is able to approach learning as a task of discovering something rather than 'learning about' it, to that degree there will be a tendency for the child to work with the autonomy of self-reward or, more properly be rewarded by discovery itself" (p. 88). ". . . He becomes his own paymaster in a certain measure. Seeking to gain control over his environment, he can now treat success as indicating that he is on the right track, failure as indicating that he is on the wrong one" (p. 90).

3. Learning the heuristics of discovering—finding his way around in the art of inquiry. "Whoever has taught kindergarten and the early primary grades or has had graduate students working with him on their theses—I choose the two extremes for they are both periods of intense inquiry—knows that an understanding of the formal aspects of inquiry is not sufficient. Rather, several activities and attitudes . . . appear to go with inquiry and research . . . sensing the relevance of variables . . . recasting the difficulty into a form that we know how to work with . . . inventing effective 'puzzle forms.' . . . Only through the exercise of problem solving and the effort of discovery . . . one learns the working heuristics of discovery. . . . What is unclear is the kinds of training and teaching that produce the best effects" (pp. 93-94).

4. Conservation of memory. "The principal problem of human memory is not storage but retrieval. . . . The key to retrieval is organization or, in even simpler terms, knowing where to find in-

formation that has been put into memory. . . . In general, material that is organized in terms of a person's own interests and cognitive structures is material that has the best chance of being accessible in memory" (pp. 94-96).

## LANGUAGE DEVELOPMENT

Study of children's acquisition of language during the last 35 years in America has been focused primarily on quantitative and normative aspects. Research from the 1890's to 1952 is comprehensively summarized by McCarthy (1954). "Quite recently, investigators in several parts of the United States have begun research on the acquisition of language-as-it-is-described-by-linguistic-science. . . . The new work utilizes field methods from linguistics, experimental methods from psychology, naturalistic observation, and the study of deviant cases. . . . Since fundamental matters are now controversial in linguistics, psychologists cannot look to this discipline for a single received truth" (Bellugi and Brown, 1964, pp. 5-6). Ervin and Miller (1963) point out that children's developing language can be studied from two points of view—first, a child's own sound system and the set of rules he uses to form sentences, and second, progress in mastery of the linguistic system of the model adult language. At this point, much research is confined to the study of individual children, since a child's language acquisition pattern is uniquely his. Enough evidence has been gathered from study of individual children to generalize about the sequence of various sounds acquired and the system of contrasting elements of sound which seem to be utilized by children in learning to speak. By the fourth year, the child's phonological (sound) system closely approximates the model, and the remaining deviations are usually corrected by the time the child enters school. Occasionally, earlier substitution patterns persist, and the child is usually described as having speech problems. Applegate (1961) describes the rules of substitution for such a child.

> "Children display no evidence of systematic grammar when they first begin to use words at about the age of ten months, yet most observers agree that by four years the fundamentals are mastered. The acquisition of grammar is one of the most complicated intellectual achievements of children. How does the child learn the grammatical structure of the language?" (p. 116)

> "We assume that the development of grammar arises from the economy of coding words into classes. It would tax the capacities of any mind immensely to remember the millions of utterances heard; if the words are coded into grammatical classes, it is not necessary to store specific utterances as such. If class probabilities or rules rather than specific sequences are remembered, new sequences can be generated." (p. 120)

Studies which clarify the details of when and how children learn the various codes and classes are technical, fascinating, and beyond the scope of this publication. Two references that describe the psychology of language development in nontechnical terms are Brown (1958) and Lewis (1959).

Societies differ in attitudes toward language teaching. The Comanche Indian tribe, for example, has a formalized baby talk

(Casagrande, 1948) while the Hidatsa claim to use no baby talk at all (Voegelin and Robinett, 1954). Stewart (1960) studied two cultures which differed in their tolerance of peculiarities of child language and found stuttering to be more prevalent in the society which made more rigid demands on children for adult-like speech.

How does the amount and kind of verbal stimulation given children affect speech development? Irwin (1960) found that systematic reading of stories to young children for no more than 15 minutes a day made a measurable difference in speech production. Milner's (1951) study points to the importance of language stimulus in the family. She compared two groups of first-grade Negro children—one with high scores on tests of language development and one with low scores. She found that the high scorers had participated much more widely in adult family conversations and received more overt demonstrations of affection. Williams and Mattson (1942) found the effect of social grouping on children's language development to be positive.

Templin (1957) replicated the studies of McCarthy (1930) with 460 children and discovered significantly greater language ability of her subjects over the children tested by McCarthy 30 years before. The children used longer sentences, more complete sentences, fewer one-word remarks or incomplete sentences, three times as many different words, but there was great similarity in the number of words used most frequently. In speculating about the reasons for these differences, the investigator points to the more permissive child-rearing practices and hence the more spontaneous, freer adult-child interaction, including verbal interaction. Templin also found consistent difference within her own study between upper and lower socioeconomic groups. The upper socioeconomic group children had consistently higher scores on all measures—especially significant were those in articulation of vowels, grammatical complexity of verbalizations, and vocabulary of recognition.

Dawe (1942) studied the effect of a training program in understanding and use of language on 11 pairs of matched orphanage children. She reported for the experimental group gains significant to the 1 percent level of confidence in all language measures except intelligibility of speech and complexity of organization. Sentence length, vocabulary, and gains in IQ were reported.

It is clear from this brief look at the study of language acquisition that the years of early childhood are supremely important. One may draw the inference that a child learns what he hears, and the more language he hears the better are his chances for developing facility with language which in turn facilitates cognitive processes.

Early childhood education views language development as a primary goal. Evidence is accumulating that teacher-child interaction in speech is an important tool for encouragement of both language and concept formation. Not only is the teacher a "model" for vocabulary, sound, and grammar, she is also a stimulator and reinforcer of cognition. This means she must be familiar enough with the normative data of language to pick up cues to the child's thinking

from his speech and "feed back" the encouragement to the next step of language and thought. This process is a never-ending one in informal ways between the teacher and a child, accomplished through questions, comments, "playing around" with words and ideas. In addition, of course, are the familiar, more formal avenues of information giving and getting.

Not all nursery schools and kindergartens accomplish this verbal interaction well. Prescott and others (1964) and Reichenberg-Hackett (1962) both found widely divergent verbal behavior on the part of teachers in day care. A group of nursery educators meeting in Minneapolis in 1964 gave attention to research in progress in this important area. Dorothy Haupt, in a verbal report of research for her doctoral dissertation, said her observations indicated considerable lack of awareness on the part of teachers of the educative value of verbal interaction. Clara Baldwin reported studies in progress at Cornell on adult-child interaction. Observations here also indicate that teachers differ significantly in the kinds of interaction they initiate and support.

Children learning language from each other in the school setting is another expectation of early childhood education, as yet without very specific controlled research evidence. Van Alstyne (1932) found that over half the time, preschool children tended not to talk to other children while playing with materials. Smith (1935) found children's language patterns when talking to adults to be more advanced than those used when conversing with other children. Hockett (1950) has suggested that older children are the most important environmental force in shaping the younger child's speech habits. The verbal interaction among children in a nursery school or kindergarten is largely determined by the climate for conversation created by the teachers in charge, how much they value and encourage conversation and create opportunities for it.

Growth of language ability is a goal of the various demonstration research projects for culturally disadvantaged preschool children. Deutsch (1963) discussed the rationale at the 1962 biennial conference of the National Association for Nursery Education:

> "Language is probably the most important area for the later development of conceptual systems. If a child is to develop the capabilities for organizing and categorizing concepts, the availability of a wide range of appropriate vocabulary, of appropriate context relationships becomes essential. Sometimes the most productive training can be done in the third and fourth and fifth years of life in the language area."

The enrichment program of this project is different from many nursery school curricula in the more deliberate interchange between children and teachers. The writer observed teachers making more conscious use of labeling, matching, comparing, contrasting, informal "testing" to find out what the child is getting through questions and observation (Deutsch, Appendix A).

## SKILLS TRAINING

Reading, the skill to decode the written symbols of spoken language, is subject to much current controversy. Fowler (1962) is

one who believes young children do not receive enough direct instruction. He says—

> "Nearly all cases of early reading come to light from historical sources or from surveys of gifted children. . . . These accounts prove to be one of the best stimulants for encouraging research on cognitive learning in early childhood. . . . Experimental investigation of early reading is restricted to some five studies plus a sixth on which this investigator is working. (See p. 131 ff for reports.) The paucity of interest in this area, especially on the part of psychologists, is underscored by the fact that three of these studies were all performed in one place, Stanford, more than 30 years ago. . . . Studies of reading instruction in the field of education have . . . been mostly restricted to grade school children. . . . Despite prevalent use of the concept of 'reading readiness' which theoretically allows for wide individual differences in the age, rate, and facility for learning to read, instruction in practice is basically linked to age norms . . . introduced at 5 to 7 years of age for almost all children, regardless of ability, when the child enters elementary school." (p. 133)

O. K. Moore (1963) is another investigator who would accelerate reading ability by direct and early training. He is carrying on a series of experiments at Yale, not yet reported in the professional literature, which involves teaching two-, three-, and four-year-olds to read by use of specially designed typewriters and an adult reinforcer. His study is part of a larger interest in culture and learning theory and "higher order problem solving."

Durrell and Nicholson (1961) comment—

> "There appears to be objection on the part of some teachers of young children to the idea of providing systematic instruction in letters, sounds, and words. Both 'systematic' and 'instruction' are sometimes considered unacceptable words in preschool and kindergarten. One may 'provide opportunity' informally. One may 'lead and encourage' but one must not 'teach.' The general idea seems to be that any program of teaching is necessarily forcing the child beyond his capacities. It is not necessary to force children to learn letters or sounds within spoken words. There are many opportunities for awakening interests in letters. . . .
>
> "The beginnings of reading and writing need not be a chore for children. In every aspect of the program interest should be kept high, meaning emphasized, and delight in learning encouraged." (pp. 267-69)

These authors hint at the defensiveness and attack which seem to characterize discussion of reading. Certainly open-mindedness, curiosity, and information that come from both research and experience are necessary for teachers, researchers, administrators, and parents.

The interested reader will find summary material on current knowledge about reading in the sixtieth yearbook of the National Society for the Study of Education (1961).

> "There is obvious need for controlled experimentation in the teaching of reading to five-year-olds. To date we have rather

inconclusive evidence of the effect of such instruction. We do know something of children's limitations related to learning to read our language: and we also know something of the exceptions cited by Terman and Oden (1947), Durkin (1961) and O. K. Moore (1963). . . .

"The work of Piaget and others related to the education of five-year-olds seems to indicate that, at this stage in his life, each child needs individual attention. This cannot be accomplished in a rigid atmosphere wherein children are grouped together for formal instruction." (Sheldon, 1962, pp. 16-17)

Another question deserving honest consideration, both philosophically and pedagogically, has to do with the range of significance among reading and other important learnings for young children. Bruner (1962) suggests three criteria for inclusion of particular material in the curriculum—delight, travel, and usefulness. Usefulness, he says, will take care of itself. Delight results from that content which gives the learner a sense of enjoyment, potency, and accomplishment. Travel refers to the leading-on quality of the subject matter.

Effective skills training in singing and resulting heightened interest in music were demonstrated by Jersild and Bienstock (1931), Hissem (1933), and Updegraff, Heiliger, and Learned (1938). Dubin (1946) successfully demonstrated teaching to increase complexity of preschool children's drawings by a discussion technique.

Unsuccessful attempts were reported by Jersild and Bienstock (1935) to increase skill in rhythmic activities and by Colby (1935) to teach preschool children to play musical instruments. Hilgard (1932) gave a practice group of two- and three-year-olds special training in motor skills (buttoning, scissor cutting, and climbing). They exceeded the untrained control group after 12 weeks, but, when the control group was given four days intensive practice, scores of the two groups were similar.

## MAJOR ISSUES FOR EARLY CHILDHOOD EDUCATION

Special small-group training raises the whole question of the relative functions of maturation and experience. Some skills seem to develop regardless of practice opportunities; others require both training and practice; still others develop only with maturation even though practice is given. Discovering which skills are most effectively acquired under what circumstances is the problem of education in general. Early childhood education has its own accentuated dependence on this relationship because, in this period of rapid development, individual rates of development vary widely. Among many students of child development, Gesell and others (1943) showed that American middle-class children go through fairly consistent sequences of development, but no two at precisely the same rate. Fowler (1962) points out that most research on young children and skills are normative studies and interpreted "as if the development of abilities does indeed evolve autogenously or through maturation alone" (p. 135).

One of the major questions raised but not answered for early childhood education by evolving shifts in views about intellectual

development has to do with how much systematically teacher-structured and how much child-selected experience is optimal for learning during these years when thought processes are in transition. In a rich environment that provides materials and opportunities to explore, manipulate, construct, create, compare, is it educationally defensible to trust the child's choice among activities available?

The multiple choice provided for children in most nursery schools, and to some extent in kindergarten, is based on several assumptions. First, young children's interests can be utilized to facilitate learning. Previous citations from Bruner related to learning by discovery support this idea. Second, learning which comes through many sensory channels is likely to be more permanent and more readily accessible for future use in different situations. The concept of stimulus generalization in psychology supports this assumption. Third, among young children in a group, the readiness—either by reason of mental ability, maturation, or experience—for a given learning experience differs greatly. Fourth, curiosity, exploration, manipulation, and experimentation all feed cognitive processes. These were discussed in the section devoted to creativity and intelligence. Fifth, incidental or latent learning often furnishes experiences which a child uses for future problem solving. Sixth, not enough is known about how to facilitate specific learnings (except that which lends itself to laboratory settings) to justify any one approach to a learning task. Seventh, children learn from interaction with each other—a concept discussed in the first section of this publication.

White's (1963) summary of experimental psychologists' views on the nature of stimuli is relevant.

> "Much more needs to be known about the specific sensitivities of the child to his environment, about his sensory capacities, and about the relation of these factors to learning. First we should know more about learning in relation to auditory and tactual stimuli, which are important guides to everyday behavior. Second, it seems worthwhile to ask whether all children are equally capable of using the same kinds of stimulus information. A third area worthy of exploration involves the breadth or narrowness of children's use of available cues. . . . Finally, there are worthwhile questions about how interest-value, preference, or motivational significance of cues affect their use in learning. . . ." (pp. 201-202)

One interesting "action research" study carried out in nursery schools with a multiple-choice curriculum plan is that of Wann, Dorn, and Liddle (1962). Five nursery schools and day care centers in New York were involved. The purposes were to appraise systematically the ability of young children to understand and interpret their social and physical world and to experiment with ways to improve the educational experience of young children. The teachers, directors, and the research team all participated in defining each phase of the study and in developing procedures. Observation of children in school was the basic method, with test situations developed to supplement and make observational data more specific. Anecdotal records gathered by teachers were subjected to qualitative analysis in six categories. Time-sampling

check lists were also employed. Three test situations for small groups of children were developed and used.

Data were analyzed continuously, so that curriculum ideas and experience could be introduced to extend and challenge children's abilities and so that their responses could be systematically observed. Hypotheses formulated were confirmed:

1. Young children collect information which they test and use in conversation and dramatic play.
2. Young children employ the essential elements of concept formations.
3. Young children are concerned and can deal with ideas and information about the "far away" (remote in time and space).
4. Young children attempt to understand and distinguish between the real and unreal explanations for phenomena in their environment.
5. Young children attempt to understand the demands of social living.
6. Young children experiment with language and humor:
   (a) Young children struggle to understand and use the various means of communication.
   (b) Young children experiment with the sounds of words.
   (c) Young children experiment with the humor of reality distortion.

Revival of interest in the Montessori "system" in the United States is related to the issue of structure vs. freedom in the curriculum. Other interests and issues are also involved in the rather sudden growth of Montessori schools across the nation. Part of the revived interest has to do with general heightened attention to the academic and the search for simpler solutions to problems of education. Plank (1962) points out that the current approach in the United States to the Montessori system is cold and didactic, not open as it has evolved in some parts of Europe. Beyer (1962) points out Montessori assumptions now widely accepted: that a young child can learn, that he uses his senses to learn, that a prepared environment is necessary (though nursery school teachers would differ on how), that self-correcting aspects of materials provide good learning for some aspects of a child's learning. She cites limitations to this system, which originated at the turn of the century among poor children of Rome: (a) There is too narrow focus on learning of shape, size, texture, etc. with assumption that mastery of these is the only way of preparing for academic skills. (b) Didactic materials may be used in only one way which ignores delight in discovery and creating. A minor place is given to creative materials in this system. (c) There is artificiality of focus on ritual and mastery of technique rather than on function and delight along with mastery. (d) The lack of awareness of young children's feelings of delight, anger, fear, anxiety, etc. denies current knowledge about the importance of social interaction, dramatic play "releasors." (The child's only satisfaction comes in correct achievement.)

Edmonson (1963), on the other hand, points out her belief in Montessori schools.

> "Remarkable it is that although the future of the race is dependent upon the proper care of our young, there are few references to comparative educational approaches of any type. There are no follow-ups of Montessori-trained children. In the absence of comparison and longitudinal studies, our educational theories are doctrinal and we believe what we believe as a matter of faith.
>
> "I believe the Montessori method warrants careful study which should include research comparison of several preschool educational approaches. Contentions to be examined are (a) that young children do acquire the cognitive constructs which the materials were designed to provide; (b) that creativeness and problem-solving ability result; (c) that gross and fine motor coordinations are accelerated; (d) that initiative, purposiveness and perseverance, outgoingness, fair play and altruism are significants fostered; (e) that later cognitive and social learnings are fostered by this early childhood foundation."

These questions need to be raised in ways that will give proper perspective to the issues of how much structure and how much discovery are appropriate for young children's various learnings.

*chapter*

# IV

# Later School Achievement

Improved or accelerated later school experience per se is not usually a stated goal of nursery education. Hymes (1955) has often stated that the nursery school is not a "prep school" for kindergarten, nor is kindergarten for the first grade. A statement which more properly characterizes the point of view generally accepted in early childhood education is, "Tomorrow's challenges will be best met by the child who lives today richly and well."

However, some research studies have been designed to judge the effectiveness of early childhood education by looking at subsequent achievement in the elementary school.

## PRESCHOOL EXPERIENCE FOR CULTURALLY DISADVANTAGED CHILDREN

Currently, the demonstration programs among culturally disadvantaged children, mostly in urban areas, are testing whether three- and four-year-olds can achieve concepts and skills in a preschool program that will improve their chance of success in school. (For examples see Appendix A—Brain, Deutsch, Klaus and Gray, Strodtbeck.) The rationale supporting this experimentation is most completely described in papers of the Arden House Conference on Preschool Enrichment (1964).

> "Compared with children from more privileged environments, children from lower-class, socially impoverished circumstances tend to enter school with a qualitatively different preparation for the demands of the learning process and the behavioral requirements of the classroom. Among these children there is a high proportion of school failure, school drop-outs, reading and learning disabilities, as well as life adjustment problems." (Ellis, 1964, p. 1)

> "In order to counteract the effects on school performance of an impoverished background, it is necessary to enrich not only the first-grade school experience, but also to provide enrichment or training in the skills underlying success in school, skills which children from these backgrounds have apparently developed insufficiently." (p. 7)

Deutsch (1962) expects that children who have specially designed group experience during the year before school entry will show measurable advantage in reading achievement and general intelligence over both children who had a preschool experience in unenriched day care and children with no preschool group experience. He expects that the greatest difference will show at the third grade. Other investigators are reporting very positive results from special enrichment programs.

What are these enriching elements of a preschool program which are being tested? Silberman (1964), in an article recommending extension of public education downward for three- and four-year-old slum children, says, "The nursery school holds the key to the future—but a very different kind of nursery school from the one most Americans are familiar with" (p. 39). (Since the range of experience is so great in existing nursery schools, one wonders which type "most Americans are familiar with.") In general, all the experimental programs seem to have in common great emphasis on language. In

addition each project has varying degrees of emphasis on perception, concept formation, and self-concept. While the available reports do not describe in detail the methods used to enrich curriculum in these various areas, reports of observations in several of the projects indicate a wide variety of method.

Ellis (1964) describes curriculum of the Deutsch project in this way:

> "In formulation of our pre-school enrichment curriculum, we focus on cognitive development and place particular emphasis on the following major areas: language, receptive and expressive, with emphasis on both labeling and relating levels; sensory perceptual (visual-motor functions and auditory discrimination); conceptual (information and concepts); and the development of a positive self-image through various techniques.
>
> "Underlying the specific techniques is an assumed developmental progression, a sequence including three stages of learning and development: (1) the sensory-motor level, in which perceptual discriminations are facilitated through the child's actual contact with materials and learning the correct labeling and mediational responses; (2) the perceptual level, in which discriminations are facilitated through the presentation of contrasting stimuli (different colors, shapes, sizes and sounds) and their coordination with differentiated verbal levels; and (3) the ideational-representational level, in which situations are presented through verbal and conceptual levels with a minimum of concrete perceptual support. . . .
>
> "In regard to motivation, we are interested in developing a program which will stimulate the child's interest and involvement in the situation. Naturally, this presupposes the development of an early rapport between the child and the teacher, and the use of appropriate reward and encouragement. But beyond this is the development of activities consistent with the child's level of development and level of interest, so that the factor of sheer competence in handling material and mastering activities is in itself motivating. And so important for a socially deprived group is the matter of devising materials, activities, and stories which are meaningful from the viewpoint of their own experiences and social class background. In the intellectual stimulation of the child we wish to provide for the gradual introduction of increasingly complex materials and experiences. The child may then be able to encounter and ingest each experience with some degree of success and satisfaction, and be in a position to use these experiences when he moves on to a 'higher' level of learning." (pp. 20-21)

This description of curriculum seems to indicate great similarity to the theory of sound curriculum for young children which guides qualified and experienced nursery school and kindergarten teachers—building content from the familiar to the new, from the concrete to the abstract, using spoken language copiously to accompany experience and later to describe experience. The differences lie in the more systematic attention to presentation, more deliberate interchange between children and teachers, more careful checking to find out what the child is getting.

As these various demonstration programs now in progress report findings and experiment with various modifications of curriculum, all of nursery-kindergarten education will be affected. What they have clearly shown already is the fact that a child enters the elementary school with a "set" for success or failure which has been determined by his relationships with people and things during the first four years of his life. It is also clear that the middle-class child in general has a more favorable "set" for success in school than does the child of poverty. Professor Robert Hess and associates are studying the nature of this difference at the University of Chicago's new Urban Child Center.

Some 160 mothers of preschool children have been interviewed and tested to find out how and what they teach their four-year-olds which influences the future educability of the children. While the data have not been sufficiently analyzed to make generalizations, the findings reported by Hess (1964) indicate first, that lower-class mothers tend to use restrictive language patterns which prevent the child from taking advantage of cognitive experiences available in the classroom. "Restrictive codes are stereotyped, limited and condensed, lacking in specificity and the exactness needed for precise conceptualization and differentiation" (p. 7). Second, the findings show that "teaching styles of the mothers in the working class seem to be socializing a passive attitude toward learning on the part of the child in which his own imagination, curiosity and assertiveness are discouraged and he is taught to assume the stance of waiting to be told, to receive and to be acted upon" (p. 21).

Hess's work reaffirms the importance of early language development, sensory perception, and concept of self in relation to successful learning experiences in school.

## SELF-CONCEPT AND SCHOOL ACHIEVEMENT

Some further evidence of the relationship of self-concept to school achievement comes from an exploratory study of Wattenberg and Clifford (1962) with 185 children enrolled in kindergartens of two schools of Detroit, one serving lower-, one middle-class neighborhoods. Follow-up tests two and one half years later on 128 of these children measured intelligence, self-concept, ego strength, and reading ability. Data were gathered "to determine whether the association reported by other investigators linking low self-concepts to reading difficulties was caused by poor self-concepts leading to reading difficulties or by unfortunate experiences in reading undermining self-concepts. . . . Although statistical levels of confidence were at best marginal . . . in general, the measures of self-concept and ratings of ego strength made at the beginning of kindergarten proved to be somewhat more predictive of reading achievement two and one-half years later than was the measure of mental ability. . . . Moreover, it would appear that the self-concept stands in a causal relationship to reading achievement. . . . " (pp. 2-3)

## OTHER FACTORS

Early studies (mid-twenties to mid-thirties) established that children with kindergarten experiences entered first grade with

greater readiness, more of them progressed satisfactorily, and fewer failed when compared to children who entered school at first grade (Morrison, 1937; Goetch, 1926; Teegarden, 1932; Risser and Elder, 1927).

Studies in the fifties found some greater readiness for first grade and various higher achievements in first grade among children who attended kindergarten when compared to those who did not. However, these results were more equivocal than early studies, pointing to the significance of factors other than kindergarten attendance which affect children's achievements. Trusal (1955), for example, found, when a group of 400 first-graders without kindergarten experience was compared to a group of 350 first-graders with kindergarten experience, the kindergarten group was decidedly superior. However, when 100 pairs of these same children matched on mental age and sex were compared, there was no significant difference between those members of the pairs who had kindergarten experience and those who had not. Since, in the population studied, attending kindergarten or not was apparently a matter of specific choice on the part of families, these results may point to the significant influence of family values and expectation. Sears and Dowley (1963) make the same observation in relation to nursery school attendance:

> "It should be noted that since the decision on attendance or non-attendance is up to the parent, it is very likely that the parents of children attending nursery school have somewhat different attitudes toward and relationships with their children than those who do not attend. . . . One reason for desiring nursery school attendance for their child might be that the parents value the development of social skills and believe that the nursery school will facilitate this development in their child. . . . It may also be that parents who send their children to nursery schools are more highly achievement-oriented than parents who do not. We have considerable evidence that such parental attitudes are influential in the development of children." (p. 846)

Studies relating nursery or kindergarten experience to achievement in the elementary school, then, seem to indicate (a) that preschool group experience can help to compensate for the inadequate preparation for school provided by some lower-class or disadvantaged home environments; (b) that middle-class children who attend nursery school or kindergarten as a group tend to show greater achievement in the early elementary school, but this achievement may be the result of factors other than the school experience itself, such as family attitudes and expectations.

Again, theory rather than experimental research has guided practice. The assumption guiding early childhood education is that rich experience enhances a child's intellectual activity, self-assurance, social skill, and hence, the potential for his academic achievement. No research evidence gives contraindication, and increasing evidence clearly supports the assumption.

*chapter*

# V

# Looking Ahead

Now is a time of challenge and a time of opportunity for early childhood education. The challenge to current practice and purpose from the lay critics of education, from the social scientists, from the psychologists must be carefully considered in the light of evidence—from experimental research, from theory, from experience—which supports the democratic values of American education.

Sometimes the glove cast down in challenge before the educators of young children seems—rightly or wrongly—to threaten all the values of sensitivity, individuality, mental health, spontaneity, and delight which they hold dear. Certainly all teachers and administrators must honestly and thoughtfully analyze why they do what they do. Historic perspective on the emphases of different eras in education of the young provides some guidelines. Knowledge from other disciplines is essential. Clear values that guide judgments toward worthy human ends are required. "Teaching," as someone has said, "is more than flying blind!" The important goal is to incorporate what we know about the nature of children and the process of their learning with the requirements of education for a changing society.

The current cogent question for nursery and kindergarten educators is "How can school programs be planned for young children which make use of existing knowledge about the relationship between emotional and intellectual aspects of human development—or more technically, between affective aspects of development and cognitive processes?" The early years of childhood appear to be the highly "teachable moment" for placing the full force of feeling, motivation, drive, and satisfaction behind perception, learning, thinking, and all cognitive processes. Never before has there been as much clear evidence pointing to the educational importance of the early years of childhood.

"Education for what?" is another whole matter, which cannot be decided by research. Judging the goals of education—from cradle to grave—is the province of society, and in this multicultured democracy there is room for variety. Harold Taylor (1960) points out:

> "What life should be, what qualities of human nature are most desirable, is the base on which the educational system of every culture rests. A general image of an ideal human character underlies the educational planning and a system of education is constructed to develop such character and to develop through education the human resources necessary for a society in which these qualities of character can flourish.
>
> "The American educational system from the start has been experimental, varied, mixed, and controversial. Controversies in education have reflected conflicts about what kind of society America should become and how life should be lived. . . . Success or failure of various kinds of schools and colleges has been judged pragmatically, by whether or not they have met needs of some part of the country's population." (pp. 3-4)

Pragmatically, the nursery school and kindergarten have demonstrated their value in some segments of society. Developing them

to full stature in the total educative process is no simple task. It is a challenge which requires the efforts of a well-educated professional corps—capable of communicating with other disciplines, competent to point the way for arriving at wise judgments for children and society.

*appendix*

# Résumés of Selected Studies

# A

Brain, George. "Baltimore Early Admissions Project."

Brown, Ann Wilson, and Hunt, Raymond. "Relations Between Nursery Attendance and Teachers' Ratings of Some Aspects of Children's Adjustment in Kindergarten."

Deutsch, Martin. "An Enrichment Program for Pre-School Children."

Klaus, Rupert A., and Gray, Susan W. "The Early Training Project: Murfreesboro, Tennessee Schools."

Kunkle, Ethel; Bixby, Barbara; and MacDonald, James. "A Study of the Junior Kindergarten Experience."

Prescott, Elizabeth, and others. "Children in Group Day Care, The Effect of a Dual Child-Rearing Environment."

Reichenberg-Hackett, Wally. "Practices, Attitudes and Values in Nursery Group Education."

Shure, Myrna Beth. "Psychological Ecology of a Nursery School."

Strodtbeck, Fred L. "The Reading Readiness Nursery: Short-Term Social Intervention Technique."

Tyler, Forrest B., and Whisenhunt, James W. "Motivational Changes During Preschool Attendance."

Vitz, Paul C. "Some Changes in the Behavior of Nursery School Children over a Period of Seven Weeks."

Brain, George. "Baltimore Early Admissions Project." Children, March-April 1964.

(See also: Harding, Alice C. "To Be Continued." NEA Journal 53:30-32; September 1964.)

A three-year experimental preschool program for culturally disadvantaged children is jointly sponsored by the Baltimore City Public Schools and the Ford Foundation. Beginning in February 1963, 60 four-year-olds were enrolled in nursery centers in two public schools with a curriculum designed to develop cognitive skills and wholesome self-concepts.

Findings: By June 1963, the group showed statistically significant higher scores on the Columbia Mental Maturity Scale and on the Verbal Maturity Scale than on preprogram tests. Progress is also reported in discriminatory skills, acceptance and expression of new ideas, and talking and working with others. These children apparently adjusted to kindergarten with greater ease than did children who had not had the training experience.

A total of 140 children were enrolled in September 1963, two groups attending a half-day and two attending a full-day program. Control groups were set up in each center. Long-range plans include a longitudinal study of the effects of the program on later school achievement.

Brown, Ann Wilson, and Hunt, Raymond. "Relations Between Nursery Attendance and Teachers' Ratings of Some Aspects of Children's Adjustment in Kindergarten." Child Development 32:585-96; 1961.

Brown and Hunt investigated relations between some aspects of children's adjustment in kindergarten and their previous attendance at a nursery school. Paired subjects from one kindergarten class, one of each pair with prior nursery school experience and the other with none, were equated for social status, sex, ordinal position in family, and IQ. Age range of the group was 5-4 to 6-6; IQ range, 97-146. The majority of the subjects were from the higher social status ranges.

Four independent graphic rating scales were contructed, labeled Very Good, Good, Fair, Poor. In addition to four adjustment scales—Activities, Group, Authority, and Personal—there was a fifth scale, Relative Brightness, by forced choice of each pair of children. Twenty-three teachers were involved in the ratings. On a 10 point interval scale, ratings ranged from a low of 2 through a high of 9.

Findings: The differences between mean scores for Activities, Group, and Personal were significant. Differences on scores for Authority were not statistically significant but were consistent in direction. By sign test, the difference on the Relative Brightness rating was not significant. The results failed to support the hypothesis that nursery attendance enhances later school adjustment. Nonattenders were seen by their teachers as generally better adjusted.

Deutsch, Martin. "An Enrichment Program for Pre-School Children." (A program to demonstrate the effectiveness of a "therapeutic curriculum" for the socially deprived preschool child.) Annual Report, 1962. New York: Institute for Developmental Studies, Department of Psychiatry, New York Medical College.

Part of a larger interest in the reasons for learning difficulties evident in underprivileged urban children, this research and demonstration project was undertaken by joint sponsorship of the Institute for Developmental Studies, the Ford Foundation, and the Board of Education of the City of New York. Four-year-olds, enrolled in a special program housed in selected city schools and day care centers, will be followed through the third grade. Population: Children selected to meet these criteria:

1. low socioeconomic status (parents with high school education or less and in semiskilled or unskilled occupations)
2. membership in appropriate age group for admission to kindergarten in the following fall
3. grossly normal emotional and intellectual level
4. freedom from chronic physical illness
5. residence within easy walking distance
6. English speaking.

Four groups compose the research plan:

Group I: 60 four-year-olds (plus 8 alternates to replace drop-outs) divided into four nursery school classes of 15 children each, meeting two hours daily, four days a week, in specially equipped public school classrooms.

Group II: 30 children (two classes of 15 children each) at existing day care centers. Rooms similarly equipped, teachers specially trained for enrichment program.

Group III: 30 children in regular day care program will serve as control group.

Group IV: 30 preschool children without any nursery school experience will serve as another control.

Evaluation procedures "are geared toward measurement of the specific cognitive processes which, in the previous studies carried out by the Institute, have been found to be impaired in children from similar groups." Stanford-Binet Form L-M (general intelligence), Columbia Mental Maturity Scale (perceptual discrimination and concept formation), Peabody Picture Vocabulary Test (receptive language), Story-Telling Test (expressive language), Digit Repetition Test (attention and memory), Auditory Discrimination Test, and Test Behavior Rating Scales were used.

> "Enrichment procedures are directed toward stimulating intellectual growth in a number of different areas, with particular stress on the linguistic and conceptual. At the outset, the teaching program will be geared to the individual needs of the children. Systematic records of the processes employed will be kept, however, so that a curriculum can be developed in accord with the needs of the population. . . .
>
> "Attempts will be made, through periodic meetings, to enlist cooperation of parents and stimulate their interest in an understanding of the school experience of their children."

Weekly teacher workshops were carried out during the pilot study year (1962) and were planned to continue for purposes of both teacher education and curriculum development and coordination.

During the two and one half years since the program was launched, few progress reports have been issued. Deutsch's (1963) report to the National Association for Nursery Education Biennial Conference in fall, 1962, described the theoretical background for the project and stressed the importance of the child's self-concept in learning. In December 1962, a conference at Arden House on "Preschool Enrichment of Socially Disadvantaged Children" was sponsored by the Institute and the Ford Foundation. (Proceedings appear in the July 1964 issue of the Merrill-Palmer Quarterly.) Ellis (1964), in a speech presented to the Community Action for Youth in Cleveland, Ohio, in May 1964, described the current status of the project in this way:

> "By fall, of 1963, . . . our program prepared to enter a full academic year of expanded and intensive study. . . . Six enrichment classes commenced with an enrollment of seventeen children per class. . . . At parent meetings . . . child growth and development are discussed, as are child-rearing problems, health,

nutrition, and community problems. . . . Role-playing is used to show them best ways of reading stories to children."

Conferences and home visits are carried out by teachers and social workers. Curriculum enrichment is under constant scrutiny, experimentation, and development by the staff. Major areas of focus are language, sensory perception, conceptualization, and development of positive self-image.

"We have analyzed results obtained with the Columbia Mental Maturity Scale, the Peabody Picture Vocabulary Test and the Stanford-Binet. Briefly, analysis of the posttest data indicates (1) a significant difference between the experimental and control groups in posttest performance on each of the tests, in favor of the experimental subjects, and (2) no significant effect on posttest performance on any one test due to previous exposure to the test material.

"The analysis of pretest to posttest change shows a significantly greater gain for the experimental subjects on two of the measures, CMMS and PPVT. Although the experimental group made a significant gain on the Stanford-Binet, it is not significantly different from the small nonsignificant gain on the control group on this measure.

"Immediate positive effects of the pre-school enrichment experience are demonstrated in the gains on the Stanford-Binet and the PPVT. On the CMMS the experimental group made a slight nonsignificant gain, while the control group experienced a significant decrement in performance. The results indicate that the enrichment curriculum has been effective in maintaining or significantly improving test performance on three measures of verbal skill and cognitive functioning."

Klaus, Rupert A., and Gray, Susan W. "The Early Training Project: Murfreesboro, Tennessee Schools." (Supported by an NIMH Grant.) Today's Educational Programs for Culturally Deprived Children. Proceedings of Section II, the Seventh Annual Professional Institute of the Division of School Psychologists. St. Louis: American Psychological Association, August 1962. (Mimeo.)

The study is intended to provide special experiences during the two preschool years and during the first year of school which might contribute to better intellectual processes and personal adjustments by the culturally underprivileged child and at the same time to provide a pattern for similar programs undertaken by other school systems.

Two training periods of different duration were employed for the purpose of comparing the lasting effects of a shorter but still profitable period with a longer and more costly one. The shorter period was two 10-week summer sessions with in-between winter contacts by a home visitor. The longer period had three summer sessions at school and two winters of home visits. Home visits provided materials and maintained supporting and reinforcing contacts with the child. The school sessions concentrated on the development of attitudes and aptitudes for achievement, social and personal relations, and improved general physical conditions.

The experimental groups and the two control groups employed had eighteen to twenty-two children each. The control groups consisted of one in the same community as the experimentals and one in a similar community.

Findings: Results of the experiment at the time of this report found the first experimental group, at the end of the summer school session, with a mean gain of 14 IQ points on the Stanford-Binet as compared to a 2.3 gain for the same period by the control groups. On the Peabody Picture Vocabulary Test, the experimentals made a gain of 6.6 months of mental age to 0.9 for the controls. (Differences for both tests were significant at the 0.01 level.)

The experimenters suggest that these large gains must in some part be attributed to the children's increased ability to relate to adults and increased task orientation and that, though these results are encouraging, the final results of such an early training program will come when the children are actually in school.

Kunkle, Ethel; Bixby, Barbara; and MacDonald, James. A Study of the Junior Kindergarten Experience. Research Bulletin 62-2. Milwaukee: Campus School of Education, University of Wisconsin. (Mimeo.)

Data were collected and analyzed to see whether results could support the following hypotheses:

1. Children who attend a well-run junior kindergarten will demonstrate a more adequate self-concept at that time compared with children who have not had the experience.

2. Four-year-olds who have had a good school experience will show more positive development at that time (in behavior, physical growth, social development, and intellectual growth) than children who did not attend school.

3. Parents of children who have had a four-year-old group experience will perceive greater growth (physical, emotional, social, mental, language development) in their children during this time than those parents perceive when their children stay at home.

4. Four-year-olds attending a good junior kindergarten for a longer period will show greater change during their school experience than those attending for a shorter period.

Thirty-six children of middle-class parents were the subjects for this study. None had previous school experience, and all were at least four years old by September 1 of the year of the study. Subjects were placed in the school (experimental group) or in the home (control group) by random sampling. The experimental group attended school from September to April; the control group, from April to June. Parents were asked to fill out a questionnaire as to their authoritative or permissive attitudes and to give a picture of the child. Parents were also interviewed before and after the school experience to obtain a comparative evaluation of the child's behavior. Observational data were recorded on a performance scale for each child shortly after entering and before leaving the school. Behavior was noted in four categories—social relationships, emo-

tional relationships, contact and use of the physical environment, and contact with the experimental environment. A projective interview was administered by a trained person in order to find out how the children felt about themselves and their school experience. The Goodenough Draw-a-Man Test was given at about the same time (March for the experimentals and April for the controls) to see if the two groups were comparable in intelligence.

Findings: Interpretation of the results indicated support of the four hypotheses. Scores from the observations showed that each child in both groups showed an increase in all four main areas, and a comparison of scores for the two groups demonstrated statistically significant differences in favor of the experimental group. Statistically significant growth was perceived by the parents of the experimental group in the social, mental, environmental, and personal areas. Greatest growth occurred in the social area but not in the behavioral and language areas. The control group parents found some, but not significant, growth in their children after the short school period. When the differences between the scores of the first and second observations for each child in both groups were analyzed, the experimental group showed significantly greater progress (0.05 or beyond) compared to the control group.

Prescott, Elizabeth, and others. "Children in Group Day Care, The Effect of a Dual Child-Rearing Environment." Research Report No. 20. Calif.: Welfare Planning Council, Los Angeles Region, 1964.

To better understand the effects of day care this study examines the child-training patterns in homes and group day care centers to determine what similarities and differences exist between the two. Three questions were posed:

1. What alterations in the child-rearing environment occur for all children who are placed in group day care?

2. Are the alterations greater for some children than for others because of their family backgrounds?

3. To what extent does the choice of a particular type of day care center alter the child-rearing environment?

Sixteen trained interviewers used a modification of the Sears protocol with 219 working mothers and specially designed schedules with 67 teachers and 30 directors.

The subjects were drawn from 30 day care centers selected on the basis of sponsorship and socioeconomic status of neighborhoods to be representative of Los Angeles County. In addition, observations were made in all centers.

Major differences were revealed which were directly related to education, socioeconomic level, and ethnic background. Parents with education similar to that of the director of the center were in greatest agreement with the center's practices, whereas parents of less education than the director were in least agreement. Greatest differences existed among the low socioeconomic parents and the centers attended by their children. The former were found to be most authoritative and strict in their control of sex behavior, aggression, and dependency;

while the latter were more lenient in these areas but more demanding in the routines of daily living, such as neatness and table manners.

Less difference was found in discipline of parents and centers, although verbal discipline increased with socioeconomic status and punitive behavior decreased. Teachers used more verbal methods and fewer punishments than did parents. The amount of physical control was about the same, but teachers reported use of isolation and deprivation of privileges instead of spanking or slapping.

During observations in the centers, the researchers were immediately impressed with differences in "emotional climate." The role of the director seemed to be important in determining this climate. A typology was developed to categorize climate in two dimensions of the adult-child relationship which appear to determine attitudes toward children's activities and the type of control used. Four categories were established:

1. Warm and nonauthoritative denoted a high degree of communication among staff of the center and between center and home; a flexible program, with varied activities, which considers children's wishes and interests. Usually, such a facility was small, private, and commercial.

2. Warm and authoritative centers with considerable communication, a more structured program where children were allowed less use of initiative. This type was not found in a large day care center.

3. Cold and nonauthoritative denoted a low degree of communication and a program of little variety and emphasis upon routines. Such centers were usually low in fee and large in size.

4. Cold and authoritative centers with little communication and a very structured program of varied activities, almost completely initiated by adults. These schools are typically very orderly, sometimes immaculate, and often have quite elaborate physical facilities. Parents and school personnel were most satisfied with their relationships with each other, though in point of fact there was less contact between parents and center in this category than in the other three.

There appeared to be a relationship between the socioeconomic level of the parents using a facility and the emotional climate of the particular center, although parents of all levels were found in all types of centers. Educated parents were found most frequently in privately sponsored, warm, and nonauthoritative centers. Homogeneous clientele appeared in warm and authoritative facilities. Cold and nonauthoritative centers, large in size and weak in director's leadership, attracted a heterogeneous and/or low educational group of parents. Cold and authoritative centers seemed to have mostly lower-middle-class clientele who emphasized the importance of manners and care of property.

A rather full discussion of the original questions for investigation is set down on the basis of observations, interviews, and speculation as to the meaning of day care experiences for children involved.

1. What alterations in the child-rearing environment occur for all children in group day care? The following excerpts highlight the investigators' discussion:

   "Group day care offers few opportunities for children to test the limits of their skill and competence, to exercise control over the initiation and termination of activities, to reject temptations, to observe adult roles, or to talk with adults. . . .

   "Unless the home life of these children compensates for such missing experiences, it seems possible that these children may enter school with less skill in verbal expression, less motivation for achievement than children from an optimal home-neighborhood setting. It might also be predicted that their previous experience with group living would make them obedient grade school pupils who look toward their peers rather than toward their teacher for help, approval, and satisfaction."

2. Are these alterations greater for some children than for others? The investigators' speculation on this question includes these comments:

   "The postulated effects of group day care probably apply most fully to . . . (low SES) children because the home setting appears to provide few of the dimensions of experience which seem to be missing from group care. The circumstances which may reduce motivations to achieve skills necessary for assumption of adult roles may apply with even greater force to those children of Negro and Mexican-American backgrounds with absent fathers. . . . It does appear that a combination of home and group care is a more satisfactory arrangement for children from families of high socio-economic status, in that it provides the same dimensions in home and school, while the school also may provide social opportunities lacking at home." (The investigators are careful to point out the impossibility of judging a home environment solely on the basis of class factors.)

3. To what extent does the choice of a particular type of child care center alter the child-rearing environment? A full discussion includes these points:

   "The environment characterizing a day care center appears to be affected by its size and physical setting, the clientele which it serves, its sponsorship (which determines administrative procedures), and finally, by the director and staff. . . . The climate of a school appears to pervade all aspects of school policy, including discipline, communication, and program. . . . The one factor which appears to be most influential is the ability of the director, since she is often capable of altering the setting, influencing parents, and training teachers. Perhaps one way of altering patterns of group day care would be to recruit well-educated directors who possess a high level of administrative skill and personal attributes and who are given the authority to assume full responsibility for the operation of a center."

In a look at standards in relation to observed conditions in day care, the investigators point out that physical facilities and physical

care offered by almost all centers approach those proposed by the Child Welfare League. The discrepancy between standards and practice in the areas of program and home-school relationships, however, are so marked as to give the standards an air of unreality.

> "Perhaps one reason why home-school relationships seldom develop beyond the stage of friendly interchange or a conference on a serious health or behavior problem is that day care personnel do not really possess enough factual knowledge about the care which they offer to recommend ways in which it should be complemented by care at home. . . ."

Suggestion is made that detailed information about teacher behavior throughout the day might be helpful in analyzing inherent strengths and shortcomings of day care. "Day care personnel might then have the factual basis for developing a genuinely cooperative and mutually helpful child-rearing relationship with parents" (pp. 124-25).

Reichenberg-Hackett, Wally. "Practices, Attitudes and Values in Nursery Group Education." Psychological Reports 10:151-72; 1962.

Reichenberg-Hackett made a systematic study of the influences of the classroom behavior of the individual teacher on the children in her nursery school group. Observations were made in 10 different schools and included four Negro groups and six white groups with corresponding teachers. The four-year-old children in the study came from different socioeconomic backgrounds. Three groups were upper-middle-class; two, middle-middle; five, lower-middle. All observations were made during a two-week period while the children were engaged in the "free-play period."

Observations, recorded in detail by psychology students, were combined to give a total of four and one half hours of classroom behavior per teacher. Data collected included all notable gestures and various noncommunicative activities as well as verbal communications. The observational running records were broken into units based on the triangular relationship of subject-object-situation. A change in this relationship terminated the single episode or unit. Observations included from 217 to 479 units of one teacher's behavior.

Five categories were selected as including the important dimensions of teacher behavior and were used by teams of workers to analyze and categorize the units of behavior. These five were (a) teacher approach, which included communicative behavior (verbal-nonverbal, with individual-with group, with child-with adult) and noncommunicative behavior (child-centered, neutral, subjective, silent supervision); (b) teacher's motivating techniques (encouragement, management, and discouragement); (c) activities on which the teacher focused attention or in which she participated; (d) lessons taught and purpose of the teacher's intervention in an activity (to promote, restrain, stress); (e) values and summary of each teacher's goals as noted in lessons.

Findings: The results of the analyses of the above data indicated that the personality of the teacher—her outlook and convictions—was the most important single factor in the type of experience a child has in a nursery group. Therefore, groups were found to vary widely in types of experience. For a detailed representation, four

groups (two white, two Negro) were equated for socioeconomic status and selected to represent extremes in relation to the functioning of the teacher within the group.

In two upper-middle-class groups there was a high percentage of verbal and nonverbal communication with the individual child and the group but very little with adults. In teacher techniques, the ratio of encouragement to discouragement was 9 to 1. Activities were child-centered; most frequently noted were conversation, role playing, and creative play. Lessons taught and values categories showed high percentages of episodes oriented toward the development of an adequate self-concept, a consideration for the well-being of others, and personal responsibility.

Contrasted to the results for the two upper-middle-class groups were those for two lower-middle groups. Communication was mostly verbal rather than nonverbal and was in the form of rules, commands, and cautions to the child more than in the form of conversation with the group. The encouragement-discouragement ratio was 1.75 to 1. Activities were frequently "neutral" acts, such as restless shiftings and looking through purse. Ten spankings were noted in one of these two groups. There was a notable lack of interest in the child except for physical assistance (putting on clothing); and "negative values" appeared as a subcategory to the values category.

In all 10 of the groups studied, the variety of management techniques and activities and the differences in climate were an important feature. Race differences in teacher behavior were not indicated in the type of climate or the methods of handling human relations. The ratio of encouragement-discouragement did not seem to correlate with socioeconomic status. In the groups where there was a distinct variation in the ratio of encouragement-discouragement, the type of child behavior recorded also showed a distinct variation.

Shure, Myrna Beth. "Psychological Ecology of a Nursery School." Child Development 34:979-92; December 1963.

This study investigated some of the physical-environmental influences on the spontaneous behavior of four-year-old children as it occurred within certain areas of the indoor setting of a laboratory nursery school. Descriptive and comparative data were collected within the art, book, doll, games, and block areas in an attempt to answer some questions regarding (a) population density—the number of appearances within the physical location designated for specific activities; (b) mobility—frequency with which the children move in and out of an area; (c) appropriateness of an activity to a locale—whether the child's behavior is relevant, irrelevant, or absent (no activity); (d) quality of emotions—child's behavior is positive (happy), neutral (indifferent), or negative (unhappy); (e) complexity of social participation—unoccupied single child, awareness, or social interaction; (f) amount of constructiveness with play materials—constructive, neutral, destructive, or absent; (g) sex differences found in each of the preceding categories.

Two observers recorded the behavior of seven boys and seven girls over an approximately five-month period. The areas were equipped with typical nursery school materials, and the placement

of equipment remained the same throughout the observations. Each area was observed during a five-minute period divided into one-minute segments for the purpose of getting more samples of behavior and of determining mobility. After the last area was observed, the process was repeated, allowing ten-minute observations of each area per recording session. Nearly 200 behavioral samples or a total of 20 days of observation were obtained for each area.

The following results were found in the various categories:

For the total number of appearances made (772) as recorded minute by minute and for the number of different children (143) appearing in various areas, most time was spent in the block area, second in the art area, and least in the book area. All areas, with the exception of games, showed some notable sex differences. There were 236 more total appearances by boys than by girls in the block area, while girls made 236 more total appearances in the art area than did boys.

Mobility was defined according to the number of movements (entrance and exit from an area) and stabilities (a child's remaining in an area from one minute to the next) which occurred. With the index figure of 1.00 meaning 100 percent mobility, the median index for all the areas was 0.25. For the various areas, the median indexes were: games—boys, 0.50 and girls, 0.25; dolls—boys, 0.50 and girls, 0.50; books—both sexes, 0.00; blocks—boys, 0.10 and girls, 0.33. The median test applied to this data, with all areas combined, revealed no significant sex differences. Comparing areas with boys and girls combined, the differences between areas were significant, the biggest difference showing in games.

In all areas, for the total sample, activity was more relevant than irrelevant or absent; greatest percentage (84 percent) of relevancy occurred in the art area and second (65 percent) in the block area. The proportion of irrelevant/absent activity in blocks was about twice that in the art area, and the proportion of absent activity was found to be lowest (4 percent) in the book area.

Among the subcategories under the complexity of social participation, "unoccupied" was dropped because of only 26 appearances in the total sample. "Single child" play was found most frequently in the block and games areas. About one half the play in art and books was in the "awareness" subcategory or "parallel play" type of behavior. Most frequent evidence of complex social interaction was found in the doll area. One half of the play in the block area was in the "social interaction" subcategory.

Constructive use of materials was more evident than destructiveness or neutral handling, with destructiveness a negligible amount. Greatest constructiveness was found in the art and book areas; the least occurred in the block area. Neutral handling occurred one fifth of the time in blocks and slightly less in the doll area. Frequency of neutral behavior without any use of materials was twice as great in the games and block areas as in art and books.

Behavior and sex differences were significant in the art, doll, and block areas. Boys were found in irrelevant activity proportionately more often than girls in the art and doll areas. The reverse

was true for the block area. In the art and doll areas, the girls evidenced more relevant activity than they did in the block area; the converse was true for boys. Comparison of girls alone showed that the proportion of irrelevant time spent in the block area was four times greater than in other areas. Boys alone were most irrelevant in the doll area. Sex differences in constructiveness were significant only in the doll and block areas. The boys showed more destructive play in dolls and blocks. Girls were constructive in dolls but more "absent" in blocks. Greater differences in social participation were found in the block area than any other, boys evidencing a greater proportion of "associative play" than girls. Girls participated in three times as much "single play" in the block area as compared to boys.

Discussion of the study by the author suggests that since it was the area studied, the children may have been involved in activity other than the direct use of materials. No comparison was made with previous studies about specific materials. Other explanations of findings under the seven categories included: (a) The high population density may have affected the amount of constructive use of materials occurring in the block and art areas. (b) The greater social interaction in the block area may have been due to the high proportion of neutral handling and "absent" constructiveness in blocks. (c) The number of children found in an area could be related to the physical size of the area—blocks, the largest, had the most children; and books, the smallest, had the least. Physical size did not seem to relate to the time a child spent in an area, as the longest time spent occurred in books, the smallest; and the next longest time spent was in blocks, the largest. Highest social interaction in the doll area could be explained by proximity within the small area. Parallel play could also be a function of the size of the area.

Shure found that this study raised a number of further questions which need to be answered and lists possibilities at the close of her report.

Strodtbeck, Fred L. "The Reading Readiness Nursery: Short-Term Social Intervention Technique." Summary of Progress Report. Chicago: Social Psychology Laboratory, University of Chicago, 1963. (Mimeo.)

Supported by the Social Security Administration, a research and demonstration program to determine the results of special training designed to counteract the effects of a deprived environment on later school achievement is being carried out in the Social Psychology Laboratory of the University of Chicago under the direction of Fred L. Strodtbeck. An interim report gives an account of several thirteen-week sessions attended by groups of 10 four-year-olds each, living on Chicago's South Side. These children are drawn from Negro, father-absent families who receive Aid to Dependent Children assistance.

Changes resulting from a special nursery school experience are measured by differences in scores on the Stanford-Binet and the Peabody Picture Vocabulary Test which are administered prior to and at the close of each thirteen-week session. Teachers for the first two groups practiced a "mothering while teaching technique"

producing growth in interpersonal maturity and peer relationships among the children. Teachers of two subsequent groups used techniques of close supervision of free play activities, active assistance, and demonstration. Little or no IQ score changes found for the two earlier groups as opposed to gains for the latter two were attributed to the two different teaching techniques. The report summarizes the changes in IQ scores as evidence that "a thirteen-week, purposely stimulating, nursery experience is able to raise I.Q. scores as much as six to nine points and verbal intelligence twenty points or more."

To the date of the report, August 1963, four sets of children had been processed, and two years remain in the total project. The report not only describes the observations of intelligence quotient changes but also includes descriptions of miscellaneous "spot" studies concurrently taking place with the same groups of children. Included are studies of sex-role differentiation, social differences, and intellective maturation.

Tyler, Forrest B., and Whisenhunt, James W. "Motivational Changes During Preschool Attendance." Child Development 33:427-42; June 1962.

Three questions were considered in this study: Do initial similarities and differences in motivational characteristics of two groups of preschool children persist throughout a period of attendance in the same school? Are there systematic changes in motivational patterns of children concomitant with preschool attendance? Does a group of preschool children become more or less homogeneous in motivational characteristics with preschool attendance?

Subjects were 34 children enrolled in a cooperative preschool at a university. Sample 1 was 11 girls and 7 boys, age range, 30-60 months. Sample 2 was 7 girls and 9 boys, age range, 30-50 months. The same teacher, working in both groups, presented a flexible, low adult-control program in which the children were encouraged to develop and follow their own interests. The data, collected in the first three months of school, were part of a larger study. Two observers made narrative, descriptive-type observations on each child. The mean observation times were, for group 1, four and one half hours and, for group 2, five hours. Two independent raters reported on all observations.

The records were divided into behavior units and rated for five motivational categories: (a) recognition-status (R-S); (b) love and affection (L & A); (c) dominance (Dom.); (d) protection-dependency (P-D); (e) independence (Ind.). Scores for each child were the sum of the ratings of both observers. Analyses were based on the actual and proportional numbers of ratings in each category during each of the three months observational period.

Findings: Examination of differences revealed no significant differences between samples under the first three categories; neither group changed significantly in "independence" during the total period. In the "protection-dependency" category no significant difference existed during the first month, but there was an increase in proportional scores in the following months, giving a significant difference for the total period.

Both groups were combined to give four fairly homogeneous groups of old boys, old girls, young boys, and young girls. The two girl groups showed similar and stable motivational patterns for the total period. No differences were found between boys and girls in either the younger or older age groups. Differences did exist between the two boy groups. During the second month, older boys increased in Dom., while younger boys decreased at about an equal rate. The increase in R-S behaviors found in younger boys was directly proportional to the decrease in Dom. behaviors, while the reverse was true for the older boys.

Increases or decreases in variances within each motivational category were examined for each observation period, but the only significant changes in variance were found in sample 1 in the L & A category between the second and third months. Findings did not indicate that preschool attendance increases personality conformance or individuality.

Vitz, Paul C. "Some Changes in the Behavior of Nursery School Children over a Period of Seven Weeks." Journal of Nursery Education 16:62-65; 1960-61.

Part of a larger study undertaken in the Human Development Laboratory at Stanford University, five kinds of behavior were observed for changes occuring during the last seven weeks of an eight-week summer session. Subjects were 21 boys and 19 girls, age range, 4-5 years, children of college graduates. Observations of behaviors—"antisocial" aggression, adult-like, dependency, thumb-sucking, and disciplinary—were made between 9:00 A.M. and 11:45 A.M., with all the children attending either Tuesday-Thursday or Monday-Wednesday-Friday. Twenty other children were enrolled but not included in the study. Supervision was by an experienced teacher, several student teachers, and mothers. The program was one of free play and activity which the children initiated themselves. Intervention was only for the purpose of protection or of facilitation of play. Every child was observed an average of five hours, or nearly 10 percent of the time he spent in school. Four trained observers made 10-minute observations of the number of 30-second intervals in which the child exhibited each of the five kinds of behavior.

Findings: The results of the average percent of aggressive behavior showed nearly a 40 percent decrease over the seven-week period, most decrease shown by boys. The adult-like behavior increased steadily almost 40 percent, girls showing more increase. The first two of the five behaviors observed were the ones that showed significant changes.

CHART OF SELECTED RESEARCH STUDIES* ON THE EFFECTS OF NURSERY SCHOOL AND/OR KINDERGARTEN ATTENDANCE

| | as measured by behavior and/or tests in | | |
|---|---|---|---|
| | Nursery School | Kindergarten | Later School Years |
| 1. Social Learnings | Walsh, 1931<br>Ezekiel, 1931<br>Kawin & Hoefer, 1931<br>Caille, 1933<br>Mallay, 1935<br>Hattwick, 1936<br>Joel, 1939<br>Van Alstyne & Hattwick, 1939<br>Jersild & Fite, 1939<br>Vitz, 1961 | Greene, 1930-31<br>Cushing, 1934<br>Angell, 1954<br>Allen & Masling, 1957<br>Brown & Hunt, 1961 | Morrison, 1937<br>Van Alstyne & Hattwick, 1939<br>Hamalainen, 1952<br>East, 1953<br>Phillips, 1953<br>Angell, 1954<br>Trusal, 1955<br>Allen & Masling, 1957<br>Nicholson, 1957<br>Bonney & Nicholson, 1958 |
| 2. Emotional Adjust. | Walsh, 1931<br>Hattwick, 1936<br>Keister, 1937<br>Andrus & Horowitz, 1938<br>Joel, 1939<br>Heathers, 1955<br>Tyler & Whisenhunt, 1962 | | Voas, 1940<br>Hamalainen, 1952 |
| 3. Intellectual Development | Wooley, 1925<br>Goodenough, 1928<br>Skeels and others, 1938<br>Bird, 1940<br>Starkweather & Roberts, 1940<br>Goodenough & Maurer, 1940<br>Bayley, 1940<br>Anderson, 1937<br>Jones & Jorgenson, 1940<br>Jones, 1941<br>Dawe, 1942 | Peterson, 1937<br>Woolfolk, 1929<br>Dawe, 1942<br>Klaus & Gray, 1962<br>Brain, 1964 | Wooley, 1925<br>Goetch, 1926<br>Risser & Elder, 1927<br>Hildreth, 1928<br>Teegarden, 1932<br>Wellman, 1934-35<br>Wellman, 1937-38<br>Page, 1939<br>Voas, 1940<br>Olson & Hughes, 1940<br>Mott & Martin, 1947 |

| | | | |
|---|---|---|---|
| | Wellman, 1943<br>Frandsen & Barlow, 1940<br>Strodtbeck, 1963 | | Pratt, 1949<br>Almy, 1949<br>East, 1953<br>Bergamini & Swanson, 1954<br>Fast, 1957<br>Deutsch, 1962 |
| 4. Adjustment to School | Mallay, 1935<br>Jersild & Fite, 1939<br>Andrus & Horowitz, 1938 | Greene, 1930-31<br>Cushing, 1934<br>Angell, 1954<br>Allen & Masling, 1957<br>Brown & Hunt, 1961 | Phillips, 1953<br>Angell, 1954<br>Trusal, 1955<br>Allen & Masling, 1957<br>Nicholson, 1957<br>Bonney & Nicholson, 1958 |
| 5. Special Abilities | Hilgard, 1932 (motor skills)<br>Jersild, 1935 (singing)<br>Updegraff, Heiliger, & Learned, 1938 (music)<br>Dubin, 1946 (art skills) | | Wattenberg & Clifford, 1962 (reading & self-concept) |
| 6. Other Influences in Early Childhood Education | Kawin & Hoefer, 1931 (physical development)<br>Dunshee, 1931 (food attitudes)<br>Updegraff, 1933 (frequency of communicable diseases)<br>Vance & Temple, 1934 (food preference)<br>Yum, 1954 (cerebral palsied children)<br>Reichenberg-Hackett, 1962 (attitudes & values)<br>Kunkle, Bixby, and MacDonald, 1962 (self-concept & general dev.)<br>Shure, 1963 (ecology & quality of ch. activity)<br>Prescott, 1964 (divergence of home & school child-rearing practices) | | Campbell, 1933 (food habits)<br>Lane, 1942 (deaf children) |

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Sears, Pauline S., and Dowley, Edith M. "Research on Teaching in the Nursery School." Handbook of Research on Teaching. Chicago: Rand McNally & Co., 1963. Chapter 15, pp. 814-64.
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*appendix*

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